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Including the Railroad Gazette and the Railway Age

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CONTENTS

EDITORIAL:
Editorial Notes 693
Chicago, St. Paul, Minneapolis & Omaha.....694, 751
Southern Railway 694, 753
St. Louis Southwestern.....696, 748
Chicago & North Western.....697, 744
Chicago, Milwaukee & St. Paul..... 698
New York, New Haven & Hartford.....700, 739
Atchison, Topeka & Santa Fe.....702, 737
The American Locomotive Co..... 703
LETTERS TO THE EDITOR..... 704
ILLUSTRATED:
Construction Work on the Cleveland Short Line..... 705
MISCELLANEOUS:
Letters from an Old Railway Official to His Son, a General Manager 712
Electric Railway Convention..... 715
Foreign Railway Notes.....705, 714
GENERAL NEWS SECTION..... 722

THE last report of the Interstate Commerce Commission fixes the amount of stock and debt of all kinds of the railways of the country at $18,417,132,238. This obviously is not an exact measure of the value of the whole railway property. But taking the return as it stands, it is interesting to compare it with a computation of the *Wall Street Journal* some time ago based on the returns of the Bureau of Statistics, and estimating the total corporate capital and debt of the country at $55,000,000,000, after allowing for duplications. In the computation, the railways would figure by approximately one-third of all the corporate wealth of the country, which, outside of the railways, would include banking, mercantile, manufacturing and other corporations. On the *Wall Street Journal's* basis of about $110,000,000,000 as the total wealth of the country, the railways would have more than 16 per cent. of the whole, and this not including street railway properties, which in general character are cognate with the steam lines, in some cases owned by them, and in other cases having an identity of interests. If investments directly dependent for values on the railways and not necessarily connected directly with transportation could be counted in, the railway percentage would rise still higher.

FOUR hundred and fifty-nine broken rails detected by track circuit signals in twelve months is the aggregate found recently by five chief engineers when they compared notes on the records of their respective roads. Whether these roads have a large mileage of such rails as were brought to light after the recent accident at Manchester, N. Y., we are not informed; nor do they tell us how many other rails failed on their lines during the year. It would be very interesting to see, if we could, in how many of these 459 cases the immediate cause was a change of temperature. If all (or most) of these rails were broken directly by the passage of a train in medium temperature, while yet that train was not derailed, the record would seem to indicate that to get bad enough to produce a derailment, rails must, in many cases, be pounded by a long succession of wheels, even after the break has been started. In such a situation an inspection after the passage of each train would be "indicated," as physicians say. But who could afford that? Or, where could be found men who would surely detect such breaks, even in daylight? But, whatever the result of any speculations that we may indulge in, such a figure as that given above ought to affect materially the use of automatic signals. Discovery of broken rails through the means of signals has been familiar to everybody for 25 years. The epidemic of bad rails of four years ago may possibly be followed by another. If such should be the case, track circuits would be especially useful; though one would not make the prevention of damage by broken rails a main purpose. The main purpose in connection with rails is to make them safe—to get rails of a quality that will not break; and the main purpose in connection with signals is to prevent collisions and increase the capacity of the railway. There ought to be incentive enough to get signals for these reasons alone.

THE report of the Railroad and Warehouse Commission of Illinois, which is dated March 13, 1911, but which was published only a short time ago, calls attention to the delay in publication of the volume. The report points out that when the legislature created the commission, in 1871, there were only 19 separate corporations owning railways in the state, with a total mileage of 3,730 miles, while in 1910 there were 151 separate corporations owning or operating steam railways in the state, with a main line mileage of 12,126 miles, and 63 separate corporations owning interurban electric railways, with a main line mileage of 1,376 miles. It is on this quite impressive increase in business brought under the supervision of the commission that a plea for larger appropriations is based. The commission says "in order that the value of information [contained in its report] should be appreciated, it is of the utmost importance that the report should be ready for distribution as soon after the date for which it is made as possible." Any one who has tried to get information on present day conditions from government reports will heartily agree with the Illinois commission in its opinion of the value of timeliness. The 1910 report of this commission unconsciously, probably, illustrates another point that ought to be urged in favor of prompt reports of railway commissions. The commission says: "In conclusion we desire your especial attention to the results as shown by the comparative tables. Notwithstanding the newspaper account of disaster to railway interests by adverse legislation and depression in business, the results here shown disclose the most prosperous year in the history of railways of this country." The report of the commission is for the fiscal year ended June 30, 1910. Presumably the newspaper accounts of adverse legislation and depression in business are of May or June, 1911, and such a statement without any explanation by the commission is apt to be misleading.

CHICAGO, ST. PAUL, MINNEAPOLIS & OMAHA.

A REPORT for the fiscal year ended June 30, 1911, such as that of the Chicago, St. Paul, Minneapolis & Omaha is rare, in that it shows larger gross, more business, larger net and a surplus of $730,000 after the payment of 7 per cent. dividends, an increase of $200,000 over the surplus of the year before. It is unusual among this year's reports also in showing an increase in working forces as well as an increase in the rates of wages. The amount paid to labor in 1911 was $5,950,000, an increase of $460,000 over the year before; and, of this increase, $198,000 was due to increases in rates of wages and $262,000 to increases in numbers of men employed.

Both the freight and the pasesnger business of the Omaha were better last year than they were the previous year. The figures for revenue from these sources is shown in the table at the end of these comments. The total number of tons of freight carried amounted to $7,230,000, an increase of 2.64 per cent. over the tonnage carried in 1910; but the ton mileage last year totaled 1,071,000,000, an increase of 9.40 per cent. In other words, the average distance each ton was hauled increased 6.60 per cent., averaging last year 158 miles. The considerable increase in ton mileage was handled with an increase of less than one-tenth of one per cent. in the freight and mixed train mileage, this mileage amounting to 4,270,000 miles last year. The average revenue train load was 274 tons, an increase of 9.33 per cent. The Omaha gets about as much, or a little more, per ton mile as other roads in its territory. Last year the average was 0.902 cents.

The total number of passengers carried last year was 4,420,000, an increase of 1.69 per cent. The average distance traveled, however, was 53 miles, an increase of a little over 2 per cent.; so that the increase in passenger mileage was 3.86 per cent. The average revenue per passenger per mile remained stationary at 1.920 cents.

The annual report does not classify the tonnage of freight carried.

Details of operating expenses show the effect of higher wages and also of higher fuel costs. Since train mileage did not increase to any extent, presumably the cost per ton of coal must have been higher last year than it was the year before. With a milder winter, the Omaha made some saving in a number of items under the maintenance of way and structures, and the total cost under this account amounted to $1,970,000, or only about $9,000 more than the cost in 1910. Maintenance of equipment, on the other hand, cost $1,860,000, an increase of $106,000, the principal increases being in cost of repairs of locomotives and costs of repairs of freight cars. The cost of repairs in 1910, even for a North Western line, was rather small.

Both the Chicago & North Western and its subsidiary, the Omaha, show in their annual reports the number of tons of rails laid during the year, as well as the number of tie renewals. In 1911, 11,440 tons of new rails was laid by the Omaha, an increase of 4,045 tons over 1910; but the net charge to operating expenses for rails was $79,000, a decrease of $6,000. Since the charge to operating expenses is only the cost of replacing old rails with the same weight of rail—the cost of the additional weight being charged to additions and betterments—the smaller charge last year presumably indicates that the company replaced lighter rails last year than those replaced the year before. The total number tie renewals was 585,000, or 155,000 more than used the year before.

During the year $1,360,000 was spent on capital account for additions, betterments and new equipment. Mention is made in our Railway Construction news columns of some of the work now under way or completed during the year.

Like other subsidiaries of strong parent companies, the Omaha does not need a great amount of working capital. Cash on hand at the end of 1911 amounted to $1,800,000. It also has in the treasury $2,840,000 of its own common stock and $1,390,000 of its preferred stock. The working liabilities amounted to $2,299,000 in 1911.

The following table shows the operation in 1911, compared with 1910:

	1911.	1910.
Average mileage operated	1,743	1,739
Freight revenue	$10,563,204	$9,720,912
Passenger revenue	4,475,419	4,309,073
Total operating revenue	16,092,851	15,095,023
Maint. of way and structures	1,965,394	1,956,455
Maint. of equipment	1,863,984	1,758,143
Traffic	285,537	285,187
Transportation	6,155,616	5,553,190
Total operating expenses	10,656,054	9,888,479
Taxes	730,808	682,832
Operating income	4,693,452	4,523,065
Gross corporate income	4,833,220	4,665,504
Net corporate income	2,816,385	2,615,285
Dividends	2,086,910	2,086,910
Surplus	729,475	528,375

SOUTHERN RAILWAY.

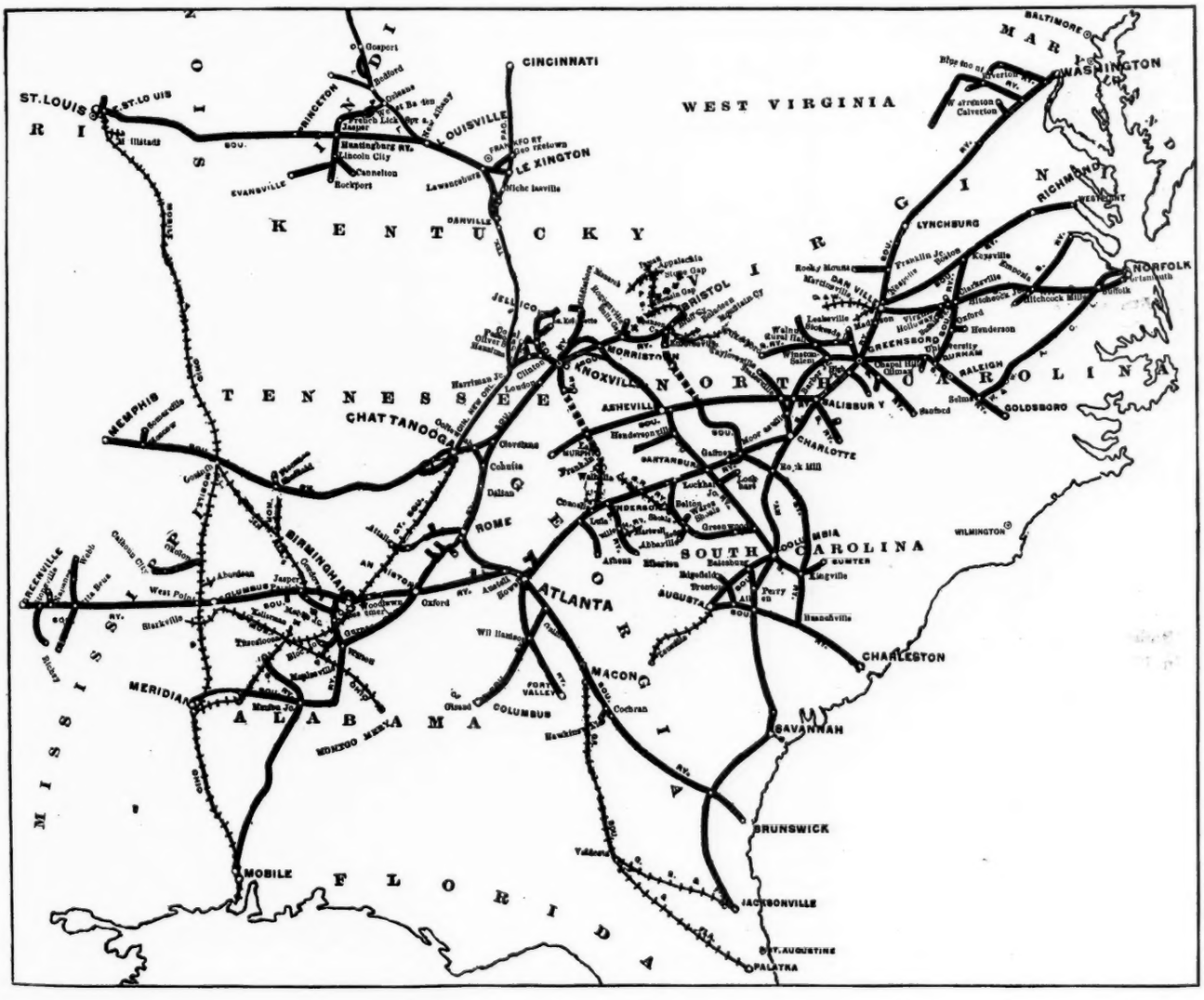
IT was only a little over a year and a half ago that one of the higher officers of the Southern Railway was showing a visitor the modern, standard Hinman yard at Atlanta, then under construction, and expressed the strong conviction that the company would be able to finish it without any further interruption because of financial difficulties. On returning, however, to the Southern Railway's station this officer pointed out the site that had been selected some years before for the new inbound freight station at Atlanta, and said that plans had been made some time before for building a modern type of freight station, but that it was a hope, rather than an expectation, that the company would be in a position to begin this work within the next two or three years. In the fiscal year ended June 30, 1911, not only has the Southern Railway completed its Hinman yards, but has undertaken work on the new freight station, and this work is expected to be completed early in 1912. This is only one illustration of the remarkable progress that the company has made in strengthening its credit, increasing its earnings and improving its physical plant, as well as increasing its operating efficiency, since 1907.

The really remarkable thing about the change in standing of the Southern Railway, from a road that appeared almost on the verge of bankruptcy in 1907 to one which, in 1911, could pay 2 per cent. dividends on its preferred stock calling for $1,200,000 and have $5,470,000 surplus for the year to the credit of profit and loss, lies in the fact that this was accomplished during four years in which the railways of the country as a whole have not had remarkable prosperity. In these years there has been no steady and large expansion in the business of the United States such as there was in the years following the reorganization of such roads as the Northern Pacific and the Atchison, Topeka & Santa Fe. Moreover, the Southern Railway went through no reorganization and scaling down of funded debt, but instead sold at a heavy discount sufficient new securities to pay off floating debt and to continue imperatively needed improvements.

At the end of 1909 the company was carrying on its balance sheet $7,798,000 net discount on the securities sold to be charged off prior to the maturity of the securities, and at that time had a profit and loss credit of $6,962,000. At the end of 1911 the company had $1,688,000 extinguished discount on securities and had a profit and loss credit of $11,446,000; and although the company has $10,000,000 3-year notes falling due February 1, 1913, it has in the treasury free $16,101,000 securities issued or assumed, of which $13,667,000 are development and general mortgage 4 per cent. bonds.

These changes have been due to the development of the territory through which the Southern Railway operates and to the policy of the company in bending every effort to make this development as rapid and as scientific as possible. President Finley calls attention to a table published by the United States Department of Agriculture which gives the total value of farm products by states for the last 11 years. In the states through which the Southern Railway operates there was an increase in the annual value of crops in the 11 years

from $485,480 to $1,042,614,000, or 115 per cent., while for all the other states, including the western states, the increase in the same period has amounted to 73 per cent., and for the states north of the Ohio and Potomac rivers and east of the Mississippi, to 60 per cent. The agricultural possibilities of the South, the industrial development that is taking place there, and the opportunities that the country offers for the establishment of new manufacturing plants, have been discussed at length in the *Railway Age Gazette.* President Finley, in his comments on the report, discusses them with an insight and enthusiasm, founded on deep study and broad experience, that makes this year's annual report of the Southern Railway not only a document to be filed but a piece of



The Southern Railway.

contemporary history that is as interesting as any description of the pioneer progress in the "golden" West. Any one interested in the position of the United States in the world's cotton market or in the social regeneration of the South should without fail read the letter of transmittal of this year's report.

The table at the end of these comments gives the principal figures for earnings and expenses and the disposition of income of the Southern Railway. As will be noted, operating expenses amounted to $40,927,000 in 1911, an increase of 5.93 per cent. over the year before. The increase in expenses was due both to a larger business handled and to larger sums being spent for maintenance of way. In 1911, 3,332,000 cross ties were renewed, which is an increase of 13.28 per cent. over the renewals for last year, and an increase of 23.34 per cent. over the average renewals for the three previous years. A somewhat smaller tonnage of new rails was laid last year than in 1910, but of the 43,439 tons laid, 43,340 tons was 85-lb. rail, as compared with 36,570 tons of 85-lb. rail laid the year before.

The company also added to its equipment over and above repairs and renewals. The average number of locomotives in service in 1911 was 1,006, as compared with 968 in the previous year; of passenger cars, 1,076, as compared with 1,030; of freight cars, 51,188, as compared with 51,065; but the average capacity of each car was 69,872 lbs., or 4.40 per cent. greater than the year before.

The Southern Railway operates 7,042 miles of line. In 1911 it carried 26,091,000 tons of freight, with an average haul per ton of 157 miles. The number of tons increased 3.52 per cent. over the tonnage in 1910, and the ton mileage increased only 2.58 per cent., since the average haul was somewhat shorter last year. Freight train mileage amounted to 15,950,000 in 1911, an increase of 2.10 per cent. over 1911. Since the financial results of 1911 have been compared with those of 1907-1909, it is proper to compare the figures for operation to see if the great progress made in financial stand-

ing rests on a basis of higher operating efficiency. In 1908 the total revenue ton mileage carried was 3,420,000,000; in 1911 it was 4,088,000,000. In 1908 the mileage of loaded freight cars totaled 235,800,000, and in 1911, 281,200,000; in 1908 the mileage of empty freight cars amounted to 93,500,000, and in 1911 to 114,500,000. In 1908 there was an average of only 13.46 loaded cars in each freight train and 6.27 empty cars; in 1911 there was an average of 16.55 loaded cars and 7.67 empty cars. It will be noted that the percentage of loaded cars remained almost exactly the same, 68.22 per cent. in 1908 and 68.33 per cent. in 1911. But it is when we examine the figures for locomotive mileage that the greatest improvement is shown. Total freight locomotive mileage in 1908 was 17,018,000, and in 1911, 17,101,000; this notwithstanding that over 19 per cent. greater ton mileage was hauled, with a correspondingly greater mileage. The average revenue train load in 1908 was 195 tons; in 1911; 241 tons.

These ton mileage and car mileage figures do not look large when compared with similar figures for many western roads, and look quite small when compared with trunk lines, but the Southern Railway operates a very large proportion of branch line mileage on which traffic is, in many cases, hardly heavy enough to justify maintenance and operation were it not that they are essential to the general development of the country.

In 1911 products of mines furnished 40.10 per cent. of the total tonnage carried by the Southern Railway; manufacturers and miscellaneous articles furnished 30.61 per cent. of the total; products of forests furnished 16.88 per cent. and products of agriculture furnished 11.26 per cent., while products of animals furnished 1.15 per cent. These percentage figures correspond very closely indeed to the percentages furnished by each class of commodities in 1908, but the tonnage of each one of these general classes is considerably larger, of course, in 1911 than in 1908. Some of the most interesting of President Finley's remarks are devoted to a discussion of the efforts made by the Southern Railway to aid farmers and planters in raising more diversified crops and in convincing them of the profits that may be made from raising fruit and vegetables, as well as raising live stock. The motive in urging live stock raising is almost entirely to develop the country, because this industry can add very little indeed directly to the Southern Railway's traffic. Products of animals in 1908 furnished 272,000 tons; in 1911, 300,000 tons. This is only the normal increase that we find in all classes of commodities. On the other hand, melons furnished 29,000 tons of the traffic in 1908, and 46,000 tons in 1911; oranges, lemons, limes and grapefruit furnished 11,000 tons in 1908, and 33,000 tons in 1911. Other fruits and vegetables furnished 159,000 tons in 1908, and 248,000 tons in 1911; while the tonnage of cotton carried remained almost stationary, being 556,000 tons in 1908, and 557,000 tons in 1911.

In closing his remarks, President Finley, after thanking the officers and employees of the company, says that the standard of efficiency throughout the service "is sufficiently high to justify the management in pursuing a consistent policy of filling, by promotion, vacancies that may occur, thus preserving a wide field of opportunity for the advancement of all loyal and efficient employees." If President Finley is correct—and he is in the best position to judge—in paying this compliment to the Southern officers and employees, it is a guarantee of no small importance that the future of the Southern Railway is indeed bright. One of the distinctive things about the organization of the Pennsylvania Railroad is that vacancies are filled by the promotion of Pennsylvania Railroad officers and not by the importation of some officer who has made good on another road. President Finley also has some interestting things to say about labor conditions in general and the arbitration of labor disputes.

The following table shows the principal figures for operation in 1911, as compared with the previous year, 1910:

	1911.	1910.
Average mileage operated	7,042	7,050
Freight revenue	$39,498,964	$38,161,392
Passenger revenue	16,056,304	14,639,161
Total operating revenue	60,345,063	57,294,508
Maint. of way and structures	7,464,916	6,635,725
Maint. of equipment	9,460,757	9,876,729
Traffic	1,549,404	1,436,776
Transportation	20,662,086	18,934,427
Total operating expenses	40,926,790	38,635,746
Taxes	2,212,968	2,027,104
Operating income	17,163,277	16,650,638
Gross corporate income	20,455,806	19,878,566
Net corporate income	6,670,003	5,757,019
Dividends	1,200,000	.....
Additions and betterments	66,046	52,373
Surplus	5,403,958	5,704,646

ST. LOUIS SOUTHWESTERN.

WHEN Vice-President and General Manager Britton, of the St. Louis Southwestern, in the annual report of this company for the fiscal year ended June 30, 1911, says that the rice industry in Arkansas continued its remarkable development, one is inclined to think that this is an understatement rather than an overstatement, if an examination is made of the figures showing the tonnage of the various classes of commodities. The tonnage of rice increased 178 per cent. in 1911 over 1910. The 1911 report of the Cotton Belt is a graphic exhibit of the development of a rich new country with great traffic possibilities, but one of the interesting things about the report is an apparent indication that the St. Louis Southwestern's share of this traffic is to be a long haul inbound on all the products used by an agricultural community, with a comparatively short haul outbound on most of the products produced by that territory. Apparently the natural outlet for a goodly proportion of these agricultural products is to the Gulf, and on this movement the St. Louis Southwestern, of course, gets but a short haul, since its 1,487 miles of main line runs from St. Louis southwest through Stuttgart and Texarkana to Fort Worth and Dallas, with a considerable mileage in Texas tapping Hillsboro, Waco, White City and the territory northeast of these cities. The St. Louis Southwestern also taps Memphis, Little Rock and Shreveport.

In 1911 the company earned gross $11,890,000, as against $10,990,000 the year before; and although operating expenses increased, they increased only $430,000, so the company was able to save $1,220,000 net corporate income in 1911, as compared with $820,000 in 1910. The company paid 4 per cent. on its outstanding preferred stock, calling for $796,000, and, since the close of the fiscal year, has shown monthly earnings that continue to compare favorably with last years. It is evident, therefore, that, regardless of business conditions in trunk line territory, the progress in the development of the Southwest has received no serious check in the past year.

The figures that lead us to believe that the development of the Cotton Belt's long haul traffic will be largely from the commodities brought in to supply the wants of the territory served, and that it will get a short haul on the rapidly increasing agricultural products produced by the territory, are found in the classification of revenue tonnage taken in connection with the figures for loaded and empty mileage, etc. It must be remembered that in the figures for classification of revenue tonnage no indication is given of the length of haul, so that an increase from 577,000 tons to 660,000 tons in products of agriculture carried does not necessarily mean that the ton mileage of these products had increased proportionately. It is, however, a striking illustration of the rapid development of the territory served by the road, as is also the increase from 671,000 tons of manufactures and miscellaneous articles to 777,000 tons, an increase of 15.80 per cent.; and it is reasonably certain that on this high grade tonnage of manufactures, the St. Louis Southwestern gets a long haul. The total tonnage originat-

ing on the system last year amounted to 2,064,000 tons, a decrease of 4.67 per cent. from the tonnage originating on the system in 1910; while the tonnage received from connections amounted to 1,293,000 tons, an increase of 44.15 per cent. The tonnage northbound totaled 1,665,000 tons, or slightly over half of one per cent. more than in 1910; while the tonnage southbound totaled 1,691,000 tons, an increase of 21.95 per cent. over 1910. Moreover, the number of loaded cars per train mile in 1911 was 17.47, as against 17.98 in 1910; while the number of empty cars per train mile was 7.74 last year, as against 6.31 the year before. The per diem amounts paid by the St. Louis Southwestern totaled $468,000 in 1911, an increase of $159,000, or 51.61 per cent. over 1910; while the per diem receipts amounted to $699,000, an increase of $142,000, or 25.42 per cent. While the number of tons of revenue freight carried was 9.62 per cent. greater in 1911 than in 1910, the ton mileage was only 3.48 per cent. greater; in other words, the average length of haul per ton was 246 miles in 1911, as against 260 miles in 1910. The average receipts per ton per mile were 1.08 cents in 1911, as against 1.04 cents in 1910.

Corresponding to the work that the Southern Railway is doing in the Southeast is the work that the St. Louis Southwestern is doing in the organization of farmers' institutes, corn clubs, hog clubs and special demonstration exhibits, and Mr. Britton says that, as a result, the farmers are rapidly gaining in ability to cope with climatic conditions. In 1910 Arkansas produced 24 bushels of corn to the acre of corn land under cultivation. A very important step in the development of the country is the reclamation of alluvial overflow lands in southeast Missouri and Arkansas, and in many places where this draining is done properly the cultivator of such reclaimed land is made almost entirely independent of droughts, since the water in the drainage ditches may be turned back under the land when occasion calls for it.

Increase in operating expenses has already been mentioned; it came largely from cost of maintenance of equipment and transportation expenses. Maintenance of equipment cost $2,064,000 last year, an increase of $207,000 over the previous year; and transportation expenses totaled $3,798,000, an increase of $522,000, or 15.92 per cent. The increase in transportation expenses was due not only to an increase of about 10 per cent. in wage schedules, but to a considerable increase in cost of fuel, due to a miners' strike in the coal producing districts tributary to the line. Of the increase in cost of coal, $189,000 was due to the increase in price, and $77,000 to the increased consumption resulting from increased locomotive mileage.

Maintenance of way and structures cost $1,800,000 last year, which is less by $351,000 than the amount spent in 1910; and Mr. Britton says that this decrease is explained by the heavy maintenance work of an extraordinary character done during the preceding year, notably the reconstruction of the steel bridges over the Arkansas and Saline rivers, the maintenance proportionately amounting to about $164,000; added to the fact that $158,000 less was spent last year than the year before for tie renewals. The standard on the St. Louis Southwestern for rails is now 75 lbs., and, of the total 1,324 track miles maintained in 1911, 1,024 was laid with 75-lb. rail, as against 936 in 1910. Of the total track mileage, 191 miles is ballasted with rock, 678 miles with gravel and sand, and 69 miles with cinders. This is an increase of 49 miles in track ballasted as compared with the year before.

The only financing that was done last year was the sale of $1,760,000 equipment trust certificates and the payment of $184,000 equipment trust certificates. The balance sheet shows $1,220,000 cash on hand at the end of 1911, which is less by about $500,000 than at the end of the year before. There is now an unusual amount of miscellaneous accounts receivable by the St. Louis Southwestern, the total amount at the end of 1911 being $3,097,000, an increase of $806,000 over the year before. At the same time loans and bills payable have increased from $150,000 to 950,000.

The Stevensville North & South Texas, which was bought the year before last, has been extended, as described in our Railway Construction news columns, and application has been made to the Texas Railway commission for authority to issue bonds to cover the cost of building this new line.

The following table compares the principal figures of operation for 1911 with those of 1910:

	1911.	1910.
Average mileage operated	1,487	1,473
Freight revenue	$8,866,846	$8,243,954
Passenger revenue	2,393,140	2,168,622
Total operating revenue	11,888,037	10,986,516
Maint. of way and structures	1,799,916	2,150,727
Maint. of equipment	2,064,046	1,857,527
Traffic	445,784	414,761
Transportation	3,798,103	3,276,478
Total operating expenses	8,578,155	8,146,057
Taxes	369,292	369,704
Net operating income	2,930,120	2,458,144
Gross corporate income	3,457,004	3,003,265
Net corporate income	1,215,823	816,466
Dividends	795,746	795,746
Surplus	420,077	20,720

CHICAGO & NORTH WESTERN.

THE Chicago & North Western, in the fiscal year ended June 30, 1911, made a saving of $200,000 in the total amount paid to labor. This sum is small compared to the total amount spent on this account, the total being $29,950,000 last year, but the saving of this $200,000 was effected despite an increase of $1,110,000 on account of higher rates of wages; in other words, there was a saving of $1,310,000 on account of less time worked by employees. It has been said that railways would be unable to cut down any further in their forces because of the cuts made in 1908 and 1909, but the North Western shows that one company at least made still further reductions.

The freight traffic on the North Western's 7,719 miles was less than in 1910, but the passenger traffic was greater. Last year the company earned gross $74,920,000, an increase of $740,000 over the gross of 1910, freight revenue amounting last year to $49,020,000; while the ton mileage of freight totaled 5,434,000,000 tons, a decrease of 2.32 per cent. from 1910. The average revenue per ton per mile was 0.90 cents last year, as against 0.89 cents in 1910; the average haul being 148 miles last year, as against 141 miles the year before. Passenger revenue in 1911 amounted to $19,120,000, an increase of 3.73 per cent. over 1910; and the total number of passengers carried was 30,330,000, an increase of 5.69 per cent. over 1910. The average rate per passenger per mile last year was 1.81 cents, and 1.82 cents the year before; the average journey was 34.74 miles in 1911, and 35.29 miles in 1910.

After the payment of taxes and fixed charges, the company had a net income of $12,600,000 available for dividends last year, an increase of $300,000 over the year before. Dividends at the same rate—8 per cent. on the preferred and 7 per cent. on the common—were paid last year as the year before, but a full year's dividend was paid on the $30,500,000 stock sold to stockholders in 1910. There was a surplus, therefore, after the payment of dividends, of $1,700,000 at the end of 1911, as against $2,470,000 at the end of 1910.

The great saving in labor forces was in the maintenance of way department. Roadway and track labor, and other expenses apparently coming under the Interstate Commerce Commission classification of roadway and track, and removal of snow, sand and ice, cost $4,170,000 last year, or $870,000 less than the year before; and this showing was made possible by the very much milder winter. Removing snow, sand and ice cost $170,000 last year, as against $710,000 the year before. There was nearly the same number of tie renewals, namely 2,490,000, in 1911 as in 1910; and 40,210 tons of new rails was laid last year, as against 22,646 tons the year before. On the other hand, there was very much less spent for renewal of ballast in 1911 than in 1910, the amount spent in 1911 being $180,000, which is less by $265,000

than was spent in 1910. Probably the ballasting of 27 miles of track with stone and 356 miles with gravel in 1910 had something to do both with the smaller sum spent for ballast this year and with the reduced cost of labor on roadway.

The Chicago & North Western has had for a number of years very low charges for repairs of its equipment, and in 1911 no saving was apparently made in the cost of repairs of either locomotives, passenger train cars or freight cars. Larger sums were charged for depreciation on equipment last year than in 1910. The company added 175 locomotives, 274 passenger train cars and 225 freight train cars to its equipment, but retired during the year 51 locomotives, 10 passenger train cars and 1,822 freight cars.

There was spent for transportation expenses $30,840,000 in 1911, as compared with $29,680,000 in 1910. Of this 3.91 per cent. increase, $288,000 was an increase in the amount paid to labor, and $164,000 was an increase in the amount charged for fuel; the remaining $707,000 was an increase in the amount charged for supplies.

The decrease in ton mileage, amounting to 2.32 per cent., already mentioned, was accompanied by a decrease of 7.91 per cent. in the mileage revenue freight and mixed trains; and the increase of 4.13 per cent. in the passenger mileage was handled with an increase of but 0.64 per cent. in the mileage of revenue passenger and mixed trains. The average revenue train load last year was 277 tons, as compared with 261 tons the year before. This is an increase of 6.07 per cent.

At the beginning of the year the company was still engaged on making a number of important and expensive improvements. During the year the new passenger terminal at Chicago was completed and opened for traffic; $4,190,000 having been spent during last year on this work. The elevation of tracks from Rockwell street, Chicago, to Sixteenth street has been completed, and the track elevation work through Evanston, Ill., has been finished. Other important construction work completed or still to be completed is mentioned in our Railway Construction news columns.

To pay for these improvements and to retire $6,347,000 bonds matured last year, the company sold $22,500,000 of its general mortgage 4 per cent. bonds of 1987. The Chicago & North Western also bought 20 per cent. of the stock of the Indiana Harbor Belt and 20 per cent. of "certain obligations" of this company.

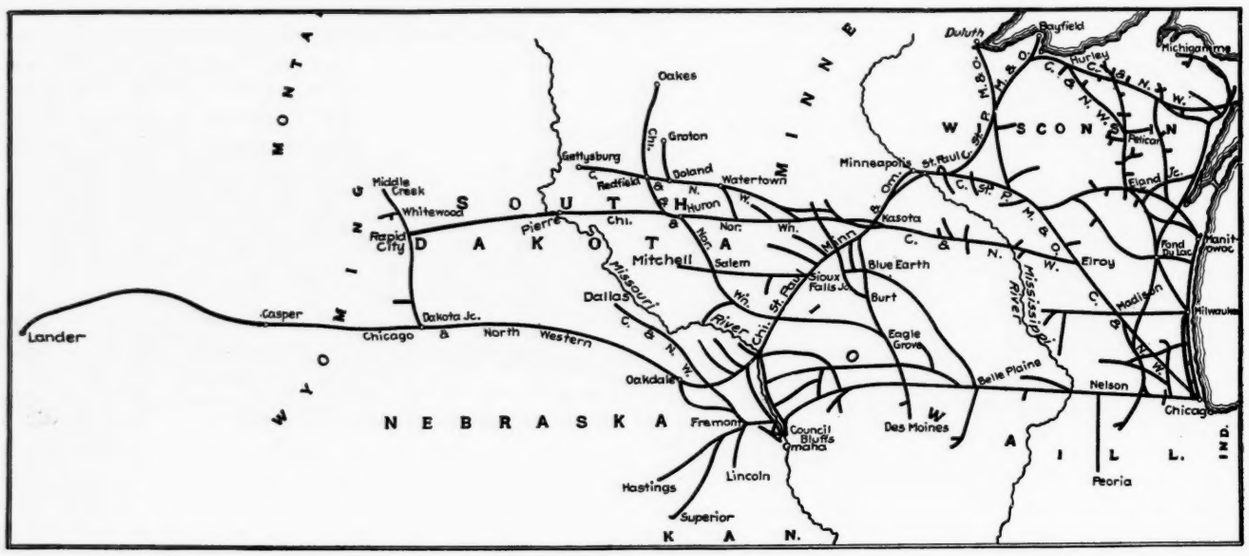
At the end of 1911 the North Western had $12,960,000 cash on hand, with working liabilities of $9,430,000. This compares with $18,500,000 cash on hand at the end of 1910, and working liabilities of $13,050,000.

The following table gives a comparison of the results of operations in 1911 and 1910:

	1911	1910.
Average mileage operated	7,719	7,629
Freight revenue	$49,024,958	$49,536,839
Passenger revenue	19,118,884	18,431,017
Total operating revenues	74,918,186	74,175,685
Maint. of way and structures	10,002,073	10,774,338
Maint. of equipment	9,307,196	9,149,217
Traffic	1,232,016	1,257,756
Transportation	30,836,561	29,677,354
Total operating expenses	53,012,710	52,153,619
Taxes	3,116,034	2,979,513
Operating income	18,735,765	18,985,612
Gross corporate income	21,759,231	21,525,371
Net corporate income	12,603,100	12,298,497
Dividends	10,899,615	9,832,038
Surplus	1,703,485	2,466,459

CHICAGO, MILWAUKEE & ST. PAUL.

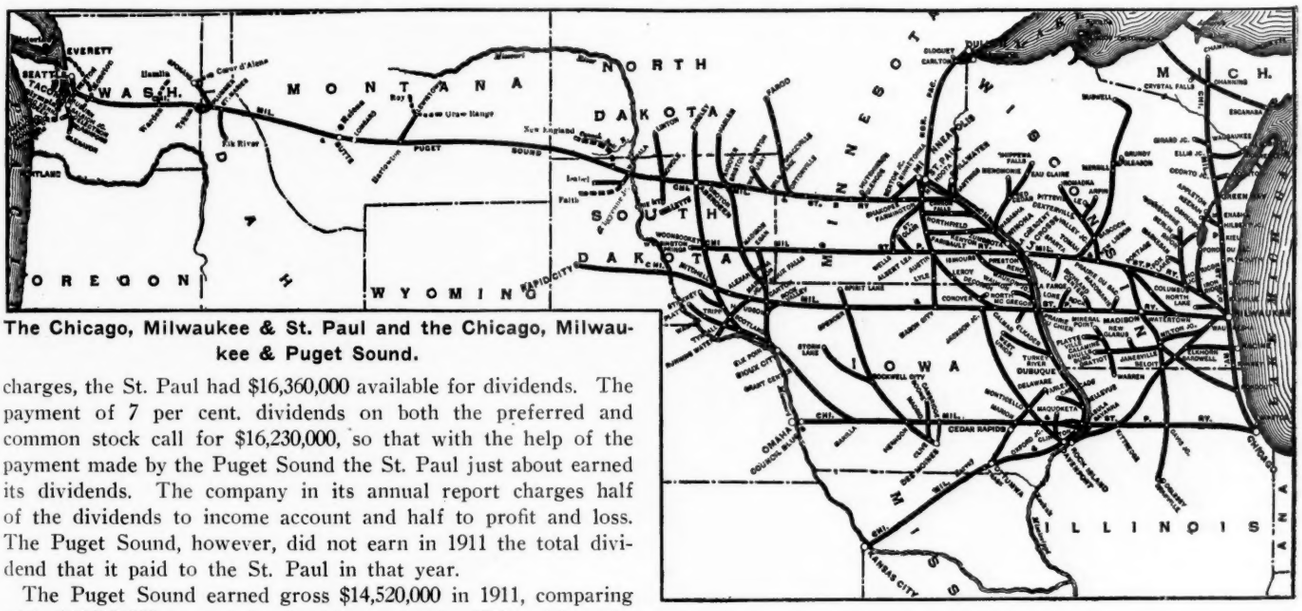
IT is possible that the interchange of traffic between the Chicago, Milmaukee & St. Paul and its Pacific coast extension subsidiary—the Chicago, Milwaukee & Puget Sound—accounts for the fact that the average haul of each ton of revenue freight on the St. Paul itself was 199 miles in the fiscal year ended June 30, 1911, as compared with 174 miles in the previous fiscal year. The traffic advantages of a connection with the Pacific coast was one of the reasons advanced for building the Puget Sound, and if this reasoning is borne out in practice, the results should be reflected in the St. Paul's traffic figures. The total tonnage of products of forests carried in 1911 by the St. Paul amounted to 3,620,000 tons, or 13.52 per cent. of the total tonnage carried, while in 1910 the tonnage of products of forests amounted to 3,850,000, or 12.55 per cent. of the total tonnage. Since the Puget Sound company's figures for commodities transported show that more than twice the tonnage of products of forests was carried in 1911 than in 1910, it is fairly safe to assume that the increased lumber tonnage on the St. Paul is the result of an interchange with its subsidiary. In 1911 the St. Paul itself carried 26,790,000 tons of freight, as compared with 30,700,000 tons carried in 1910. The Puget Sound carried 2,450,000 tons in 1911, as against 1,540,000 tons in the previous 11 months. Of the total tonnage carried last year, products of agriculture furnished 21.42 per cent. on the St. Paul, and 9.33 per cent. on the Puget Sound; products of animals furnished 6.45 per cent. on the St. Paul, and 5.37 per cent. on the Puget Sound; products of mines furnished 26.83 per cent. on the St. Paul, and 15.85 per cent. on the Puget Sound; products of lumber, as before mentioned, furnished 13.52 per cent. on the St. Paul and 42.61 per cent. on the Puget Sound; manufactures furnished 18.55 per cent. on the St. Paul, and 15.10 per cent. on the Puget Sound.



The Chicago & North Western.

The Puget Sound gets an extraordinarily long haul, being 532 miles in 1911 and 596 miles in 1910. These figures for the new line indicate a comparatively small local business. The shorter haul, however, in 1911 indicates the development of some local business.

Whether or not the Puget Sound is proving itself as useful to the St. Paul from a traffic standpoint, as was expected, it was highly useful last year from a financial standpoint. The St. Paul earned $64,980,000 gross in 1911, as compared with $64,850,000 earned in 1910. Both freight and passenger revenue were slightly less in 1911 than in 1910, the increase in earnings coming from other transportation revenue, which amounted to $5,520,000 last year, as compared with $4,630,000 the year before. Total operating expenses last year amounted to $47,050,000, as against $44,790,000 the year before. The St. Paul had an operating income last year amounting to $15,460,000, as compared with $17,730,000 the year before; but through the payment of dividends made by subsidiaries the St. Paul shows a gross corporate income of $27,340,000 for 1911, as against $25,490,000 the year before. The dividends received on stocks owned amounted to $5,070,000 in 1911; in 1910, to $800,000. After the payment of its own interest charges, the St. Paul had $16,360,000 available for dividends. The payment of 7 per cent. dividends on both the preferred and common stock call for $16,230,000, so that with the help of the payment made by the Puget Sound the St. Paul just about earned its dividends. The company in its annual report charges half of the dividends to income account and half to profit and loss. The Puget Sound, however, did not earn in 1911 the total dividend that it paid to the St. Paul in that year.



The Chicago, Milwaukee & St. Paul and the Chicago, Milwaukee & Puget Sound.

The Puget Sound earned gross $14,520,000 in 1911, comparing with $10,770,000 earned in the 11 months in 1910. After the payment of expenses and 4 per cent. interest on the $123,000,000 bonds of the Puget Sound that were outstanding at the beginning of the year, the subsidiary company had a net corporate income of $2,770,000 available for dividends. A dividend of 5 per cent. was paid on the $100,000,000 stock held by the St. Paul. Of this dividend payment of $5,000,000, the Puget Sound charged $2,300,000 to income for 1911, and $2,700,000 to profit and loss account; the Puget Sound having begun the year with a balance of $2,610,000 to the credit of profit and loss. The credit to profit and loss at the end of 1911 was $480,000. As mentioned above, the interest payments of the Puget Sound in 1911 were on only the $123,000,000 bonds outstanding at the beginning of the year. During the year the company issued $31,960,000 first mortgage bonds to reimburse the St. Paul for extension, construction and equipment payments, so that at the end of the year there was $154,960,000 bonds of the Puget Sound outstanding; and, in addition to this, there was $15,700,000 obligations outstanding for advances for construction and equipment. This makes a total of $170,660,000, which at 4 per cent. would call for an interest payment of $6,800,000 in 1912, while the interest payment last year was but $4,920,000. In other words, if the St. Paul itself does no better in 1911 than it did in 1910, the Puget Sound would have to earn *net* over $4,000,000 more in 1912 than it did in 1911 to be able to show the 7 per cent. dividend on the St. Paul earned.

Cash on hand in the St. Paul treasury at the end of 1911 amounted to $13,508,000, and in the Puget Sound treasury to $1,330,000. Working liabilities of the St. Paul amounted to $5,530,000, and of the Puget Sound to $2,200,000. The St. Paul charged to profit and loss for the year $7,770,000 for discount, commission and expenses on debenture bonds of 1909 and on the 15-year European loan of 1910. During the year the company retired $3,180,000 bonds and sold $9,990,000 general mortgage bonds, $50,000 4 per cent. bonds, and $48,180,000 "European loan of 1910," The 15-year European loan bears 4 per cent. interest. Bonds in the treasury at the end of the year amounted to $39,710,000; these bonds representing expenditures for extensions, improvements and for underlying bonds canceled.

The expense account of the St. Paul shows that, like the Chicago & North Western, the annual report of which is commented on elsewhere in this issue, it was able to save in the maintenance of way and structures, partly because of a milder winter and partly also because maintenance forces were cut, and some important economies made in section work. Total maintenance of way and structures last year cost $8,470,000, a saving of $607,000. Removal of snow, sand and ice cost $598,000 in 1910, and only $130,000 in 1911, a saving of $468,000 in that one item. Maintenance of equipment, transportation expenses and traffic expenses all increased during the year, as shown in the table at the end of these comments. The St. Paul charged but $82,300 for depreciation of passenger train cars, $213,000 for depreciation of locomotives, and $433,000 for depreciation of freight train cars. These amounts do not seem very large. The St. Paul spent and charged to capital account $3,085,000 for additional equipment in 1911.

The following table shows the principal figures for the operation of the St. Paul and the Puget Sound in 1911 and 1910:

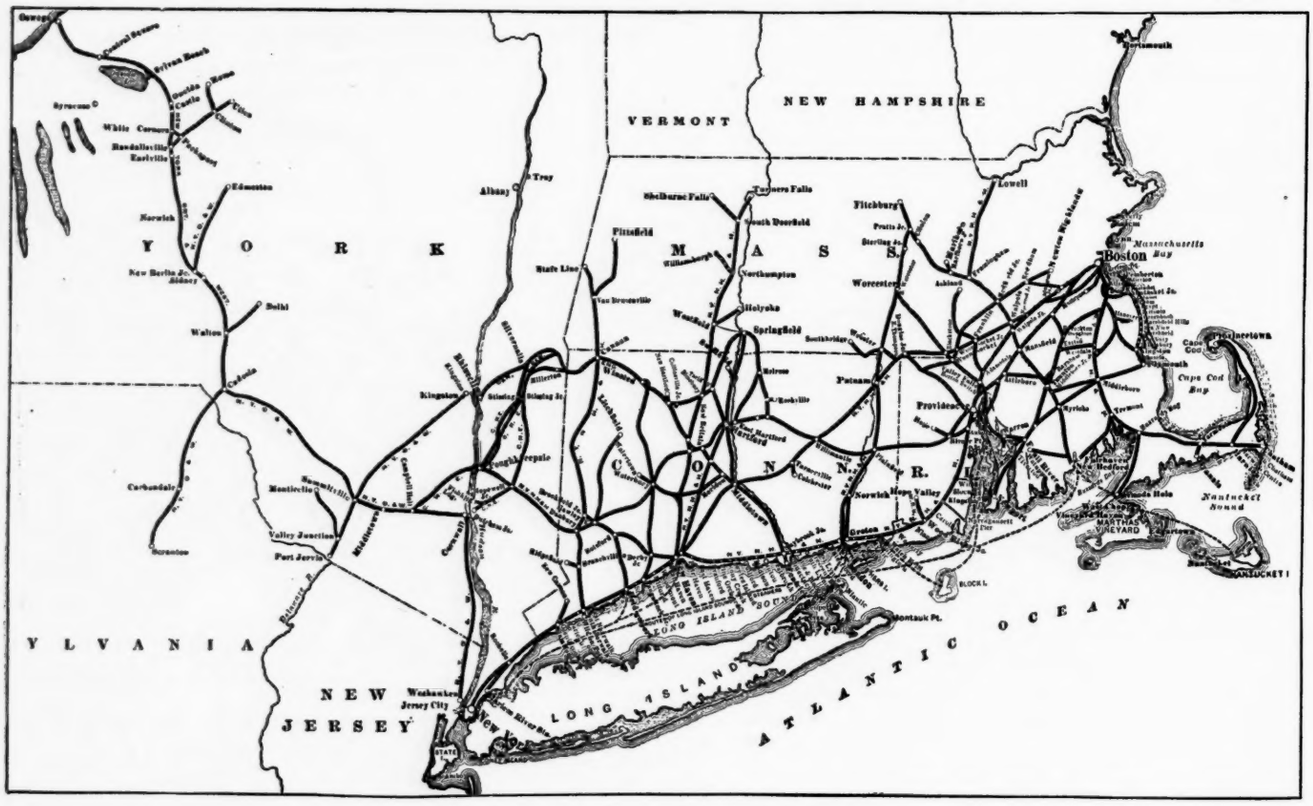
	St. Paul.		Puget Sound.	
	1911.	1910.	1911.	*1910.
Average mileage operated....	7,512	7,512	1,917	1,434
Freight revenue.....	$44,776,454	$44,909,137	$12,501,958	$9,582,570
Passenger revenue	14,077,757	14,786,744	1,603,596	995,422
Total operating revenues....	64,975,995	64,846,894	14,516,367	10,765,704
Maint. of way and structures	7,865,401	8,472,825	964,932	459,048
Maint. of equipment.....	8,839,384	7,724,559	1,502,344	889,727
Traffic	1,264,272	1,122,711	363,826	314,777
Transportation	27,965,953	26,347,283	5,278,859	3,488,837
Total operating expenses....	47,053,719	44,790,997	8,290,129	5,274,860
Taxes	2,662,700	2,529,373	515,094	235,361
Operating income	15,455,245	17,734,144	5,711,205	5,293,312
Gross corporate income.....	27,335,031	25,493,587	7,790,617	5,943,950
Net corporate income.....	16,358,314	18,681,784	2,772,197	2,196,206
Dividends	16,231,453	16,231,453	5,000,000	.....
Surplus	126,861	2,450,331	†2,227,803	2,255,440

*For the 11 months ended June 30, 1910.
†Deficit.

NEW YORK, NEW HAVEN & HARTFORD.

THE New York, New Haven & Hartford policy of rapid extension, centrality and consolidation has been condemned on the one hand as rash, and on the other hand has been extolled as progressive and enterprising. In particular, the policy of maintaining the 8 per cent. dividend during the years when the main property has shown an operating deficit has been sharply questioned. During the last eight years, the property has grown from a system of moderate size to one the combined general balance sheet of which now amounts to $504,692,632, and this not including the controlled Boston & Maine and the New York, Ontario & Western.

When President Mellen took the presidency of the company some eight years ago, he found its property "inefficient" to the highest degree. It never had owned a real "operating" head, and even President C. P. Clark, while active and ever aggressive as an absorber of lines, and the president who developed the Harlem terminal and built two additional tracks between



The New York, New Haven & Hartford.

present and future strength of the system. In the annual report for the year ended June 30, 1911, the two for the first time are joined in a statement of income and expense, a balance sheet and other details, which in importance precede the regular statement of the parent corporation to be referred to later. The combination includes the New Haven proper and 13 other properties, the most important being the Central New England, the Connecticut and Rhode Island trolleys systems, the Berkshire Street Railway, the New England Navigation Company, and the Hartford and New York and minor Sound steamship lines. It does not include the controlled New York, Ontario & Western, the Boston & Maine, the Maine Central and controlled roads; nor does it include—an important gap—some hundreds of miles of trolley lines focusing at Springfield and Worcester, controlled by a holding corporation, direct ownership of which is not acknowledged by the New Haven, owing to requirements of the Massachusetts statute. Obviously, no results on these legally fictionalized trolleys are obtainable from property report, but

New York and New Haven, was not an operator. The roadway and bridges which President Mellen inherited from President Hall were not adapted to increased train load, and the company was deficient in rolling stock. The main part of the system and some of its branch lines had to be largely reconstructed, old engines and cars scrapped and the equipment modernized. This was a great task in itself, requiring time and money. But it was minor as compared with the problem of extension. President Mellen found the system hedged in. It was threatened with diversions of business by outside railway interests, some of them even aiming at ultimate control of the property. Internally there was the menace of long distance electric parallels. The expansion policy has been pushed vigorously, but against the hardest of conditions. It has involved contests in the courts, contests in the Massachusetts legislature, individual and corporate resistance. Friction with labor unions has been almost incessant. Hitherto to a great extent, the parent company and its subsidiaries have been kept apart, although the subsidiaries have represented in great degree the they are understood to be a profitable asset of the New Haven company and rapidly developing their traffic.

The combined statement excludes all intercompany transactions. The total revenue is $87,230,963, with freight receipts returned as $36,930,489, passenger receipts $42,393,409, and express receipts $3,019,540. Operating expenses are $58,070,456, income over taxes ($4,682,384) is $25,876,461, which with income from other sources ($3,504,057) rises to $29,380,518. The major items for deductions from income are rentals, $5,063,855; interest on bonds, $2,884,379; interest on two sets of debentures, $8,012,430; and other rentals, $1,929,129; the total deductions being $18,807,116, leaving net income of $10,573,402, while actual dividends have called for $10,886,691, leaving a deficit of $313,288. This is the real dividend deficit of the New Haven system for the year. It shows the operation of the system as a whole and what would have been the deficit had the net surplus of the subsidiaries been used for dividends. Incidentally, by subtracting the $313,288 from the dividend deficit of the main corporation ($1,267,539) one obtains $954,254 as the net revenue over

all from the 13 subsidiary properties taken in their entirety, but, as stated, excluding any undivided surplus of the Massachusetts trolleys, except in the Berkshire lines.

Turning from the results for the year of the combined properties, one comes to the returns of the parent corporation, which are, as heretofore, given separately. Here the net over all shows the expected deficit, which has been anticipated by the Interstate Commerce Commission returns. Gross earnings from operation were considerably the largest in the corporation's history ($62,153,434) and compare impressively with the $60,693,667, especially when depression in many New England industries, notably the textiles, is taken into account. Freight revenue for the year, as compared with 1910, increased from $30,110,588 to $30,329,092, and passenger revenue, the size and growth of which is a striking feature of the New Haven's returns, rose from $24,885,864 to $26,212,670. But the company was hard hit in operating expenses, which rose from $38,689,215 to $40,898,632, with naturally, wages predominating, the item of conducting transportation rising from $22,942,674 to $24,526,959, and almost every operating item which has a large factor of labor in it showing some increase. For example, the pay of station employees increased to $4,708,031 from $4,478,827, trainmen from $2,432,910 to $2,779,436, and road enginemen to $2,039,270 from $1,786,881. Last year the president's forecast of the increase of wages was $1,757,506. It in fact has not proved so high, being $1,521,513, showing presumably, savings by reducing the force; and, as the president points out, "if the same rate of wages had prevailed in 1911 as was paid in 1910, the ratio of operating expenses to revenue would have been 63.35 per cent., a little less than the ratio for 1910, and the (dividend) deficit of $1,267,539, converted into a surplus of $253,973." Taxes decreased from $3,983,377 to $3,578,363, presumably due in part to lower state tax assessment based on market value of stock; and the steady increase of the returns from subsidiaries and other investments as a whole is in part indexed by the increase of income from other sources, from $6,737,146 to $9,178,928. Deductions from income show a decrease from $17,524,095, to $17,067,848, partly accounted for by the conversion of about $18,500,000 of 3½ debentures into stock. Increased stock forced the 8 per cent. dividend requirement for the year up to $12,454,852, as compared with $9,759,081 in 1910, leaving the deficit of the parent company $1,267,539 on total net income of $11,187,312 over all, as compared with $10,796,874 in 1910.

Considerable attention is given in the report to the New York, Westchester & Boston lines, one of the many prospective assets which the New Haven is carrying, and at pretty high cost; during construction. While no exact figures on this point are at hand, it has already cost the New Haven about $25,000,000, and will cost some millions more before the opening from New York City to White Plains, N. Y., and the Connecticut state line; and beyond is the cost of extensions northeast to Danbury, Conn., and northwest to connect with the Poughkeepsie bridge route. After completion, it will have to be carried for some years at a pretty heavy cash charge. But it will gain three entrances into New York City by subways and elevated lines; it will tap centrally the swiftly growing borough of the Bronx; it will shorten the line to the Berkshires and connect the Bronx, via the Poughkeepsie bridge, with the Ontario & Western and the coal fields; and, incidentally, it ought to reduce the Grand Central Station charges of the New Haven, besides developing considerable suburban business. Its future will be one of the most interesting as well as important phases of the New Haven's general policy. But it will require a number of years to work out.

The New Haven property is well maintained. Maintenance of way and structures, as compared with 1910, fell off slightly, from $7,132,375 to $6,980,036, but maintenance of equipment increased. In connection with equipment the receipts from hire of it ($409,802 as compared with but $1,055 in 1910) is a suggestive item. Bearing on the same subject directly or indirectly is a large part of the $15,443,641 spent in additions and betterments, the latter including $5,987,555 for new equipment and $308,698 for new bridges, while other betterments of plant amount to $9,456,085, including the western division double tracking, $1,025,373—extensive but relieving the New York division of freight congestion and the great cost of additional tracks on it. The extent of the various improvements is indicated by the fact that they number 234, besides 55 grade crossings eliminated.

In the way of the larger financing of the company, there has been a net decrease of the outstanding indebtedness in the hands of the public of $3,867,713. There will mature, before October, 1912, $29,665,000, which the company has the resources on hand to meet, indicated, for one thing, by $28,164,985 cash appearing in the general balance sheet, as well as marketable securities of $42,045,414. A very striking feature in the New Haven's financing is the large proportion of debentures in its debt. They amount to $151,593,200, as contrasted with $60,961,000 of bonded debt, including bonds of merged roads assumed. It calls attention to the unique fact that the company has no bonded debt on its main line. On the other hand, however, it is to be remembered that a considerable part of its debentures carry a provision for sharing in a mortgage should it be issued against the "debentured" properties. A noteworthy and favorable feature of the report is the increase ($746,768) of the various insurance funds of the corporation, all charged to operating expense. These funds are now large, the insurance fund amounting to $1,753,322 and the accident and casualty fund to $957,757. To the latter will be charged claims resulting from the Bridgeport wreck, and therefore no burden be imposed by it on operating expense during the current fiscal year or later. As to that wreck, President Mellen emphasized the company's immunity from blame and might have justly accented also the exculpating finding of the federal investigation.

During the last few months the policy of the corporation in maintaining the 8 per cent. dividend in the face of a deficit has been vigorously assailed, and the deficit has undoubtedly been the strongest force in playing on the fears of stockholders and reducing the market price of the stock.

The New Haven property has been for years a property in swift transition and is so still, although its pace has slowed down. During its long transition period it has encountered and was bound to encounter times of business depression. It was so in 1908 and in minor degree it is so now. And, in addition, along with other railways, it has had to encounter the rise in wages, adverse governmental action and other like forces. As a sequel, expansion has outrun earning power for a time. Gross and net receipts have not kept pace with new capitalization in various forms. Excluding, as exceptional, the panic fiscal year 1908, the dividend deficit for three years has been $683,360—small in itself and only suggestive as bearing on the future. The company has immense resources of a reserved and suspensive character in both capital, and, to a less degree, in net earning power. They are indicated by its return of $9,178,928 "income from other sources"; by its "combined" profit and loss surplus of $19,600,015; by its combined holdings of securities of proprietary, affiliated and controlled companies of $46,455,237, saying nothing of treasury stocks; by miscellaneous investments of $3,506,310; and by "marketable securities" of $56,954,545. The last four schedules alone run up to $126,516,107. In the way of future net earning power, reference may be made to the steadily increased earnings of the 1,400 miles of trolley roads, reduction of expense due to writing off of antiquated properties and last year charged to the expense account, and increased revenues to come from the Central New England and other properties now ripening into profits. There is also a sentimental element. For half a century the property has paid its 10 and 8 per cent. divi-

dends. In proportion to numbers, its stockholders probably represent the dependent class more than in any other large system. Its "widows and orphans" is a trite phrase, but it still has its meaning; and there is a certain sentimental equity pertaining to its stockholders who have taken up "rights" and subscribed for convertible bonds.

Under such conditions, how long will the dividend be maintained and how long ought it to be maintained to span a gap of business depression? The reply obviously depends on the length of that depression, with due regard to the fact that in such a region of intensive factory industries as that served by the New Haven, the reaction upward may come as quickly as did the reaction downward in December, 1907.

The following are the comparative figures for operation of the New Haven for 1911 as compared with 1910. Next year comparison can be made for the parent corporation and its subsidiaries combined:

	1911.	1910.
Mileage operated (single track)	4,521	4,460
Freight revenue	$30,329,092	$30,110,588
Passenger revenue	26,212,670	24,885,864
Total operating revenue	62,153,434	60,693,667
Maint. of way and structures	6,980,036	7,132,375
Maint. of equipment	7,193,424	6,461,772
Traffic expenses	351,999	350,943
Transportation	24,526,959	22,942,674
Total operating expenses	40,898,632	38,689,215
Taxes	3,578,363	3,983,377
Net operating income	21,254,802	22,004,451
Total income (less taxes)	28,255,160	28,320,969
Net income	11,187,312	10,796,874
Additions and betterments	15,443,641	4,197,070
Dividends	12,454,852	9,579,081
Deficit	1,267,539	*1,037,793

*Surplus.

ATCHISON, TOPEKA & SANTA FE.

IN his testimony before the Interstate Commerce Commission, President Ripley said that in his estimation the Atchison, Topeka & Santa Fe should spend $30,000,000 a year in the next two or three years for additions and betterments. In the fiscal year ended June 30, 1911, the Santa Fe spent a total of $32,000,000, of which $25,900,000 was for additions and betterments, and $5,900,000 for construction, chargeable to capital account. The Santa Fe operated last year an average mileage of 10,350 miles, so that the company spent over $3,000 a mile in the improvement of the property over and above what was spent for maintenance and renewals. This on the face of it seems a very large expenditure, even when it is taken into consideration that this includes new equipment above renewals, repairs and depreciation. The condition of parts of the property, however, calls for it, and the earning power of the road justifies it.

The Santa Fe operates over heavy grades on the lines west of Albuquerque and on the coast lines. Over the certain divides the grades run as high as 2.2 per cent., and the accompanying map shows the territory through which it operates. Of course, there is probably not a road in the country which has the misfortune to have a superintendent who does not think that his division merits certain improvement work; but on the Santa Fe, and especially on the coast lines and lines west of Albuquerque, operation at certain times of the year is particularly difficult, and the operating officer is under a particularly heavy strain because he not only has to handle a heavy freight business over single track line with rather heavy grades, but also has to handle a very high class of fast passenger business, which has established for itself too high a reputation to allow delays. Add to this the fact that the Santa Fe has not been wholly successful in its experiments in motive power and rolling stock repair system, and the difficulties of operation are made manifest.

In 1911 the Santa Fe handled 20,090,000 tons of freight, with an average haul of 347 miles per ton. In 1910 the company handled 19,450,000 tons, with an average haul of 361 miles per ton. The average revenue per ton per mile was 1.028 cents in 1911, and 1.015 cents in 1910. Total freight revenue amounted to $71,790,000 in 1911, and to $71,190,000 in 1910.

The company carried 14,100,000 passengers last year, with an average journey of 90 miles per passenger. The year before the company carried 13,680,000 passengers, with an average journey of 90.45 miles per passenger. The average revenue per passenger per mile was 2.144 cents in 1911, and 2.056 cents in 1910. Total passenger revenue last year amounted to $27,000,000, as compared with $25,440,000 the year before.

The increase of 2.60 per cent. in passenger business, on a mileage basis, was handled with an increase of 4.91 per cent. in passenger car mileage, and 7.19 per cent. in passenger train mileage. It appears that the company has increased its service to the public in rather greater proportion than the increase in business. There is very keen competition for transcontinental passenger business, and, while this passenger business yields a high average revenue per mile, it is expensive to handle. The Santa Fe has to meet the competition of the Southern Pacific's New Orleans route in winter, and the Rock Island-Southern Pacific competition and the North Western-Union Pacific-Southern Pacific competition in both winter and summer. Nevertheless, the Atchison's California Limited often has to be taken through in two, and sometimes three sections in the winter months.

The freight business, which decreased 2.63 per cent., on a mileage basis, was handled with a decrease in freight car mileage of 1.30 per cent. and a decrease in freight train mileage of 5.44 per cent. Car loading was not quite so heavy in 1911 as in 1910, the average tonnage per loaded car mile being 18.92 tons last year, and 19.08 tons the year before. Train loading, on the other hand, was better in 1911 than in 1910. The average revenue and company train load last year was 400 tons, as against 389 tons the year before. Of the total 20,090,000 tons of revenue freight carried, 5,700,000 tons, or 28.36 per cent., was furnished by products of mines last year. In 1910, of the total 19,450,000 tons of freight carried, almost exactly the same tonnage was furnished by products of mines, but this formed 29.28 per cent. of the total tonnage; while, on the other hand, products of agriculture furnished 4,490,000 tons, or 22.33 per cent. of the total last year, as against 4,020,000 tons, or 20.68 per cent. of the total, the year before. This increase in the tonnage of agricultural products carried reflects a particularly good crop year, and the high proportion of this tonnage justifies calling the Santa Fe a granger road. Grain and fruit move east, and last year the loaded car mileage east was 236,000,000, with an empty car mileage of 99,000,000, while in 1910 the loaded car mileage east was 228,000,000, and the empty car mileage 111,000,000.

In 1911 the company had the largest net corporate income, after the payment of expenses and fixed charges, of any year in its history, namely, $21,371,000. This compares with $20,430,000 the year before, and with $21,170,000 in 1907, the best year previous to 1911. While total operating revenues increased last year by $2,570,000, totaling $107,570,000, operating expenses increased by but $1,000,000, totaling $70,770,000. The increase of $1,360,000 in transportation expenses is only what we find on most roads during the past year, but a decrease of $1,750,000 in maintenance of way expenses is not all necessarily a permanent economy. The company showed an increase of $1,130,000 in the cost of maintenance of equipment.

The condition of the Santa Fe's equipment on the lines that compete directly with the Southern Pacific is probably not as good as that of the S. P. When the Interstate Commerce Commission's classification of operating expenses was first put into effect, the Santa Fe showed a considerable increase in the cost of maintenance of equipment and ascribed this increase to the charges for depreciation made necessary by the Interstate Commerce Commission's requirements. Since it has been left to the roads themselves to say at what rate they will figure depreciation, this appears to be a confession that heretofore depreciation had not been figured at a high enough rate. In 1911, however, $810,000 was charged for depreciation of locomotives and $1,230,000 for depreciation of freight train cars, in both cases a larger charge for depreciation than was made the year before. This depreciation in the case of locomotives was a little over 10 per cent. of the cost of repairs for the year, and in the case of freight train cars was about 34 per cent. of the cost of repairs.

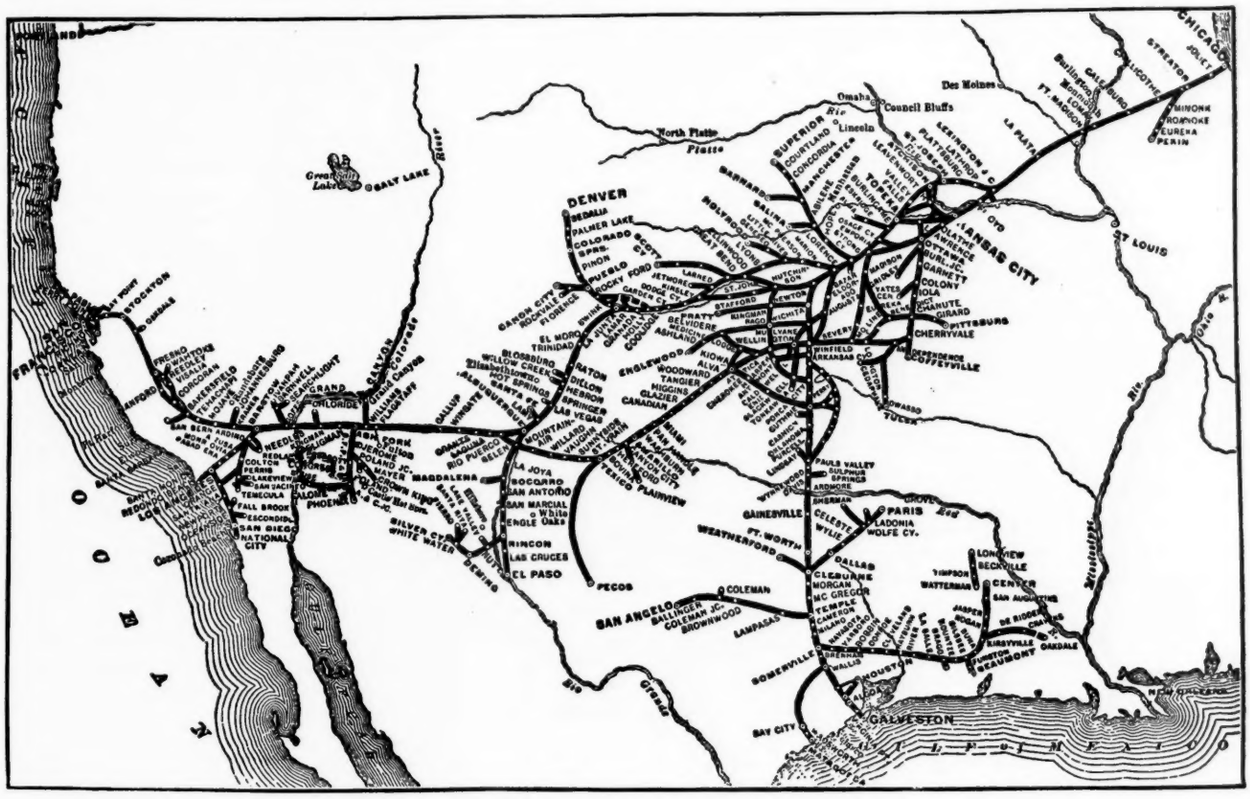
The Santa Fe has made experiments in "scientific management" of its shops, a discussion of which can form no part of these comments. Nevertheless, these experiments, together with a leaning toward a departmental form of organization, has led to a certain distrust of the motive power department by the operating department which, if it were allowed to continue, might result in a lower general efficiency of the whole transportation plant.

The Atchison, Topeka & Santa Fe, the Southern Pacific and the Union Pacific will be presumably directly benefitted in their passenger business when the Panama Exposition is held in San Francisco. The Union Pacific last year announced its intention of double-tracking its lines from Omaha to Ogden, and the Southern Pacific is apparently in a position to handle a considerably larger business than it does now with its present facilities. The Atchison, Topeka & Santa Fe will probably have to build considerable double track. During the past year $3,700,000 was spent for additional main track, and $640,000 for sidings and spur tracks. There is now in process of construction 89 miles of second track; in addition, second-track work has been authorized on the lines west of Albuquerque for about 40 miles, and extensive grade reductions and changes of line have been authorized preparatory to additional second-track work between Albuquerque and Gallup. It is expected to complete most of this work in the present fiscal year, and then the company will have in operation 816 miles of double track line.

As to the future, the company's preparations have been far-sighted and aggressive, both from the point of view of providing itself with additional capital and of making a bid for greater traffic. Since the close of the fiscal year, the company has authorized the issue of $100,000,000 convertible bonds and has increased its authorized stock to provide for the conversion of these bonds. Although none of the bonds have as yet been sold, the directors have authority to sell them when an opportunity offers and whenever addition and betterment work requires it. The company's line running from Texico, by way of Coleman, to Temple has been almost completed, and when this line is finished the Santa Fe will be in a position to make a bid for traffic originating at Galveston, or brought by water to Galveston, and destined for the Pacific coast to be routed over a line somewhat longer, but not prohibitively so, than the Southern Pacific's. Thus the Santa Fe will be in a position to compete not only with the Harriman lines from Chicago to the Pacific coast, but also with these lines from the Gulf to the Coast.

The following table shows the figures for operation in 1911 as compared with 1910:

	1911.	1910.
Average mileage operated	10,350	9,916
Freight revenue	$71,787,201	$71,194,056
Passenger revenue	27,204,868	25,437,182
Total operating revenues	107,565,116	104,993,195
Maint. of way and structures	16,059,787	17,807,136
Maint. of equipment	16,686,145	15,560,047
Traffic	2,249,899	2,114,260
Transportation	33,183,520	31,821,825
Total operating expenses	70,768,252	69,761,820
Taxes	3,474,607	4,006,419
Operating income	33,322,257	31,224,956
Gross corporate income	35,529,623	33,775,011
Net corporate income	21,371,068	20,425,784
Dividends	15,641,150	15,356,720
Appropriated for fuel reserve fund	414,140	703,218
Appropriated for additions and betterments	5,000,000	4,000,000



The Atchison, Topeka & Santa Fe.

THE AMERICAN LOCOMOTIVE COMPANY.

IN spite of the adverse conditions in the equipment market the report of the American Locomotive Company, New York, for the fiscal year ended June 30, 1911, shows that the gross earnings were $40,649,385, as compared with $32,203,392 in 1910 and $49,515,486 in 1907, the company's banner year. But although the gross earnings for 1911 showed a considerable increase over those for 1910, the company starts the present fiscal year with fewer orders received. At the beginning of the fiscal year 1910 the unfilled orders on the company's books were $6,150,000; they were $17,550,000 at the beginning of the fiscal year of 1911, and only $6,015,000 on July 1, 1911. An index of the present operations of the company upon which too much stress should not be laid, as an indication of its operations throughout the year is the contract work in course of construction at the end of the fiscal year. This was $740,550 in 1911, $2,218,812 in 1910 and $4,195,943 in 1907.

Manufacturing, maintenance and administrative costs and depreciation charges were $36,526,515 in 1911, $29,605,443 in 1910 and $42,744,381 in 1907. In 1911, $1,056,417 was charged to depreciation. Net earnings were $4,122,870 in 1911, $2,597,949 in 1910 and $6,771,105 in 1907. The surplus after the preferred dividends were paid were $1,815,562, or 7.26 per cent., in 1911, $334,758, or 1.34 per cent., in 1910 and $4,608,207, or 18.43 per cent., in 1907. The surplus credited to profit and loss, after all fixed charges had been paid, was $1,515,562 in 1911, $334,758 in 1910 and $1,358,207 in 1907. In 1911, $300,000 was placed in reserve for extraordinary additions and betterments, in 1910 nothing was held in reserve, but in 1907, $2,000,000 was credited to the reserve fund. In 1907 and 1908 dividends of 5 per cent., or $1,250,000, were paid on the common stock, but since then the directors have thought it wise to put back into the company as large a surplus as possible, the dividends on the common were passed.

Production varied during the year from a maximum of 80 per cent. of the capacity of the plants to a minimum of 38 per cent., and in only one month in the year did the receipt of orders represent work for more than one-half of the company's capacity. Several of the smaller plants were therefore closed and orders were confined to the larger plants with a resultant economy in the cost of plants operations as a whole. In the annual report of 1909 it was said that plans had been prepared and contracts made for extensive improvements at the larger works which are located at Schenectady, N. Y., Dunkirk, N. Y., Pittsburgh, Pa., and Richmond, Va. These improvements are now almost completed and the capacity of the company is now twice as great as it was at the time of its formation in 1901, being capable of an output worth about $60,000,000. In addition to these expenditures, the company has, during the year, spent on its plants for miscellaneous betterments $402,316 of the extraordinary additions and betterments fund. During the past ten years the company has spent on maintenance and betterments $11,256,787, all of which has been charged against income as a part of current expenses.

When it is realized that the fiscal year corresponds exactly with a year in which the railways felt the pinch of high wages and low rates and were forced to economy and retrenchment in order to pay their dividends, the showing of the American Locomotive Company is a good one.

It will be seen from the table below that current liabilities are kept down to about 50 per cent. of the value of the quick assets, showing the strong position of the company. Gold coupon notes now outstanding amount to $6,000,000, but $1,000,000 of these were paid off on October 1, 1911. During the year the Dickson Works, Scranton, Pa., were closed and dismantled, a contract was entered into for the sale of the real estate, and arrangements were made to retire during the ensuing year the bonds outstanding against the property, which amount to $562,500.

The quick assets and current liabilities as of June 30, 1911, June 30, 1910, and June 30, 1907, are as follows:

Quick Assets.

	1911.	1910.	1907.
Cash	$2,865,851	$1,702,269	$2,654,230
Accounts collectible	6,860,437	9,698,073	10,399,961
Notes receivable	993,343	817,508	923,205
Accrued interest	4,744	3.515	17,440
Material and supplies	5,282,728	5,375,901	4,161,128
Contract work in course of construction	740,550	2,218,812	4,195,943
Steam shovels, contractors' locomotives and automobiles manufactured for stock	925,360	286,390	.....
Advances to American Locomotive Automobile Co.	.....	.....	1,772,260
	$17,673,013	$20,103,468	$24,124,167

Current Liabilities.

	1911.	1910.	1907.
Gold coupon notes	$6,000,000	$6,911,000	$5,000,000
Accounts payable	1,852,069	3,337,709	4,516,740
Accrued interest	110,271	121,867	98,604
Unclaimed interest	1,025	1,587	2,237
Dividend of preferred stock payable July 21	437,500	437,500	437,500
Dividend on common stock payable August 26, 1907	.....	.....	312,500
	$8,400,865	$10,809,663	$10,637,581

Letters to the Editor.

"BACK TO THE RAIL."

Pittsburgh, Pa., September 9, 1911.

To the Editor of the Railway Age Gazette:

I have been reading with much interest Major Hine's letters which have been appearing in your paper. His "Back to the Rail" call is a warning which railways cannot safely fail to heed. Railway organizations are an organized system of shirking responsibility from the officers to the men in the ranks, and this inclination to throw the details onto somebody else has raised up many classes of aristocracy: the official aristocracy; the trainmaster aristocracy; and the chief clerk aristocracy; the worst of which is the chief clerk aristocracy. There was a time in the history of railways when superintendents were active, actual superintendent; when they were close to the men, close to the cars and close to the rails. Between them and actual railway operations there was but one other active agent, the yardmaster. Now a superintendent must have a trainmaster and several assistant trainmasters, a chief clerk of transportation, a chief clerk of maintenance of way, a chief clerk of motive power, a division engineer, a master mechanic and several yardmasters; and each and all of these must, in turn, have chief clerks and junior clerks; as a matter of fact railways today are governed by chief clerks. We see a bright young man enter a general telegraph office as a telegraph operator; thence he is transferred to a position as a clerk in a general superintendent's office; thence to a car distributor of a grand division; see him make himself invaluable as an encyclopedia of the number of cars in the various yards at certain hours of the day, of the size of the car movement, of what was done last year and the year before. We see him get a grip on all the details of operation and gather around him a robe of authority; he is in name a chief clerk: in power a general superintendent. Then he must have a chief clerk and an office force, for, with the semblance of power, comes that inclination to put the details on somebody else.

There being no defined line of promotion for clerks, their only opportunity for greater authority and compensation is in making themselves indispensable to their superior officers. This is accomplished by relieving their superiors of all the details, making red ink statements of statistics showing, in attractive form, performance, cost, earnings, etc. That a trainmaster or a superintendent may have before him each morning a picture of the previous day's work as compared with the work of the same period the year before, in neat and attractive figures, is to such trainmaster or superintendent undoubtedly a labor saver and a convenience; but the evil of such a practice is that these officers' time becomes exclusively devoted to examining and reviewing statistics. Moving cars is not a bookkeeping affair to anyone but the car accountant, but under the present system everybody is a car accountant and statistician.

Twenty years ago the superintendent's office force consisted of a chief clerk, and possibly a few junior clerks. Today each of these clerks is the head of a department in many instances larger than the superintendent's force was a few years ago. The forces of the trainmaster, division engineer, master mechanic, etc., have increased in the same ratio, and many new and subdepartments have been added. Everything is specialization run mad. What is the result? That everybody on a railway is running a correspondence and statistical bureau composed of attack and defense. The general superintendent attacks the superintendent, and he defends; the superintendent attacks the trainmaster, and he defends; the trainmaster attacks the yardmaster, and he defends; the yardmaster attacks the conductor, and instead of moving cars he is busy writing a defense. Railway transportation consists of getting cars to destination, not in writing letters and making records. Yesterday's work is ancient history and to get efficient service we should be on the job to-

day and see for ourselves how the work is being done. We have grown to depend too much on these statistics in spite of the fact that we all know how unreliable they are on account of the many details that figures do not show. For instance: the human element is the all important factor in efficient or inefficient service and a comparative statement of car movement and cars in yards will not show Jack's work was 90 per cent. efficient, and John's only 40 per cent.; it will not show that the men eat on the company's time and sleep during the regular meal hour; that it takes five to fifteen minutes to wake up and get on the job when lunch hour is up; that when one shifter is held by another the men lie down or wander away and it takes five to ten minutes to get them back on the job and moving again.

Statistics as history and guides are valuable and necessary, but actual operations must be directed on the ground and not by boards of strategy where orders are based on statistics that are too far from the actual operations to govern the solution of problems, the proper decision of which is contingent upon accurate and close knowledge of exact and constantly changing conditions, and it is impossible, where statistics cover a large area, to be in such close touch with the actual operation that the situation and requirements can be clearly seen and controlled.

The correspondence evil has grown until personal intercourse even between the subordinate officials and the men is practically a thing of the past. Everything has to be in writing, and unless a man is fairly well educated, and few men in the laboring service are, he is unable to state his case clearly. He gets around the question by having the grievance committee tell his troubles for him.

Reviewing this mass of statistics and correspondence, and keeping posted on the new regulation laws and labor grievances is taking so much of the superintendent's and trainmaster's time that an occasional trip over the division in a special train is about as near as they now get to the actual operation. The unit organization would always give you a responsible man in the office, and several constantly on the ground to observe the actual operation. This would bring them in personal contact with the men. The officials would get the men's point of view and *vice versa,* which would greatly decrease the activities of the grievance committee.

The solution of the question of personal supervision is by a cycle form of organization, or as Major Hine terms it "unit organization." In the actual operation there should be three cycles exclusive of the executive. First: General manager, in charge of all departments for the entire road. Second: Superintendent, in charge of all departments for each division. Third: Yardmaster, in charge of operation only, at each terminal or yard, but he should have complete authority over all factors affecting the operation. Each cycle should be a complete unit, in other words a complete organization within itself, each officer having absolute authority over all direct factors in his zone of responsibility. This lack of on-the-ground authority is largely responsible for the poor control of the men in the train service. As the superintendent got farther away from the actual direction of operations the authority went with the position, leaving only the responsibility.

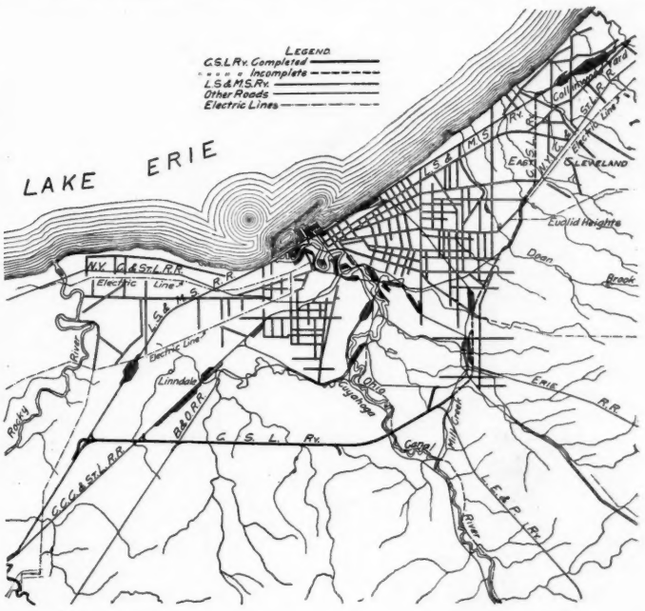
YARDMASTER.

The African Midland Railway, by late reports, had construction trains running to a point 400 miles west of its eastern terminus at Dar-es-Salem, and it was expected that by September 40 miles more would be opened, to Tura, leaving 93 miles to be built to reach Tabora, which is 160 miles due south of Lake Victoria, and as far as construction has been provided for. The colonial interests hope to have aid from the Reichstag for a further extension which is projected westward about 200 miles to Ujiji, on Lake Tanganigika. This would give the line a total length of nearly 700 miles from the Indian ocean westward.

CONSTRUCTION WORK ON THE CLEVELAND SHORT LINE.

The Cleveland Short Line is a new built railway, being built by the Lake Shore & Michigan Southern around the city of Cleveland, Ohio, to provide facilities for interchange of traffic between all of the roads entering the city and for moving through freight around the city. In addition to connecting with the Lake Shore at Collinwood on the east and Rockport on the west, the new road will connect directly with the Cleveland, Cincinnati, Chicago & St. Louis, a branch of the Baltimore & Ohio, the C. & P. division of the Pennsylvania Lines, the Erie, the New York, Chicago & St. Louis, and the Newburgh & South Shore, through the latter road connecting with the Wheeling & Lake Erie.

The building of the new road will greatly facilitate the Lake Shore's operation through Cleveland, and open up a new industrial territory. It will provide a double track freight line to carry through freight around the city, and will have sufficient switching facilities and connections with intersecting roads to enable it to perform its functions of a belt interchange line, as

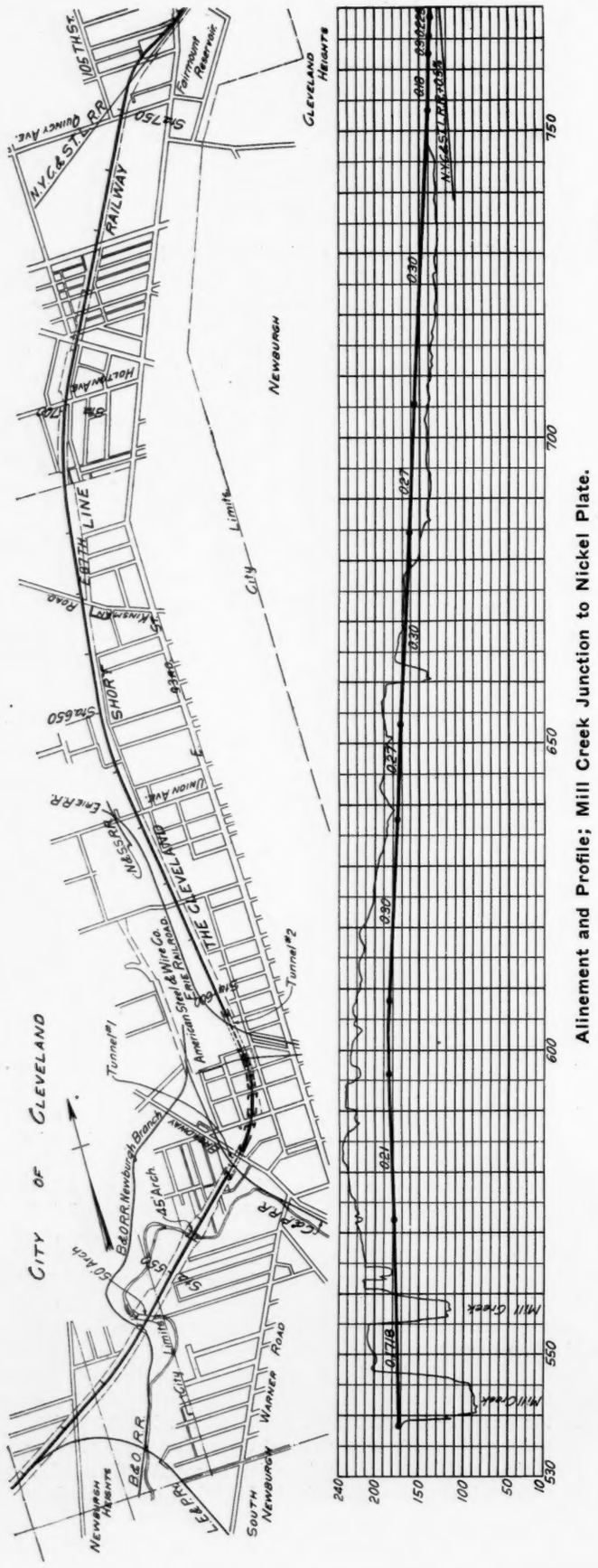


Cleveland and Vicinity, Showing Location of Cleveland Short Line.

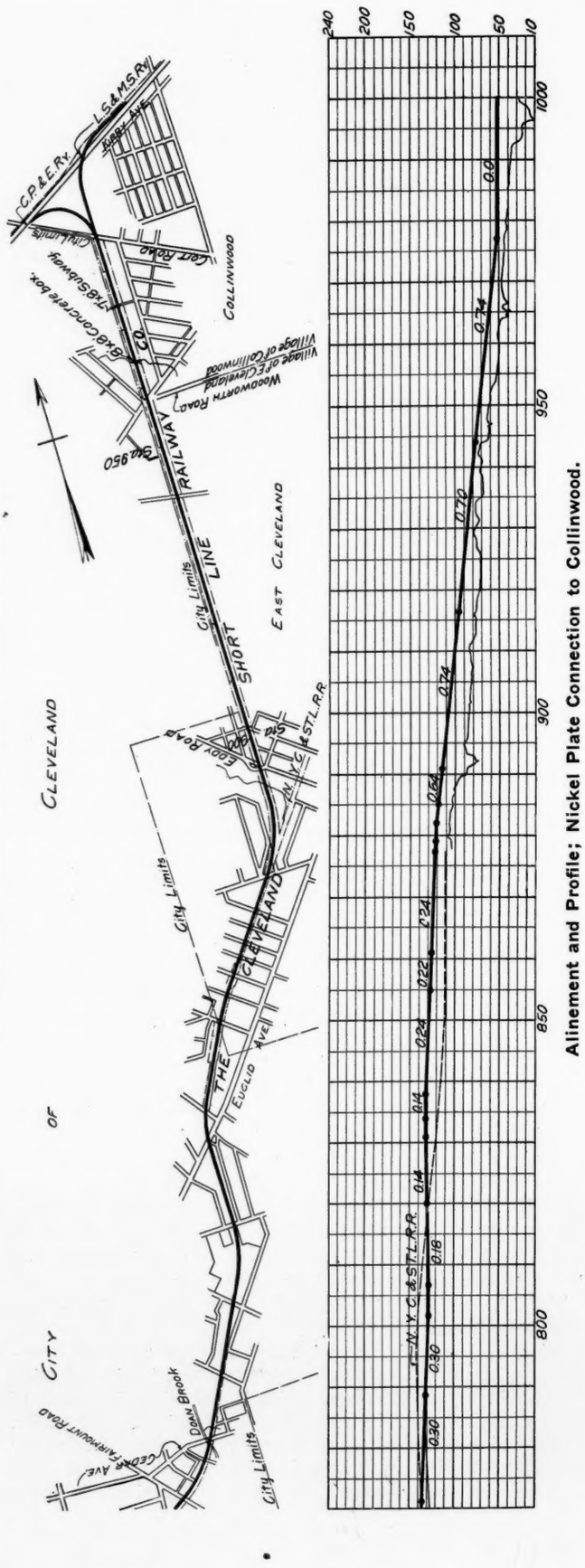
well as to care for industrial business. The present line of the Lake Shore through a considerable part of Cleveland is on or closely adjacent to the water front, and is closely built up to industries, making track extensions very expensive. It is a four-track line through the city at present, with the exception of the crossing of the Cuyahoga river, which is made on a single track gauntleted bridge, which pending other developments in this territory it is not thought advisable to rebuild. The new belt line will relieve this territory of the through freight traffic, leaving it free for passenger and local business.

The proposition of building a belt line around the city of Cleveland has been considered for many years, the first record of the proposition dating back as far as 1873. Various engineers have since then run location lines for such a road, and in 1900 Samuel Rockwell, now chief engineer, and at that time principal assistant engineer of the Lake Shore, ran a line approximately the same as the one on which the road is being built, but the estimates of cost based on this survey caused the project to be abandoned for a time, and it was not again seriously considered until W. R. Hopkins, without much financial backing, had quietly made surveys and secured options on property along a similar route and was endeavoring to finance the proposition. Before his plans

were completed, however, the Lake Shore took over all the surveys in his possession, and in 1906 work was begun on the westerly section. Work was started on the westerly section from Rockport to Mill Creek Junction in 1908. Mill Creek Junction is 10 miles east of Rockport, and is the northern terminus of the Lake Erie & Pittsburgh, a new low grade line affording the Lake Shore and the Pennsylvania a direct line to Pittsburgh from both the Cleveland and the Lorain districts. The early



Alinement and Profile; Mill Creek Junction to Nickel Plate.



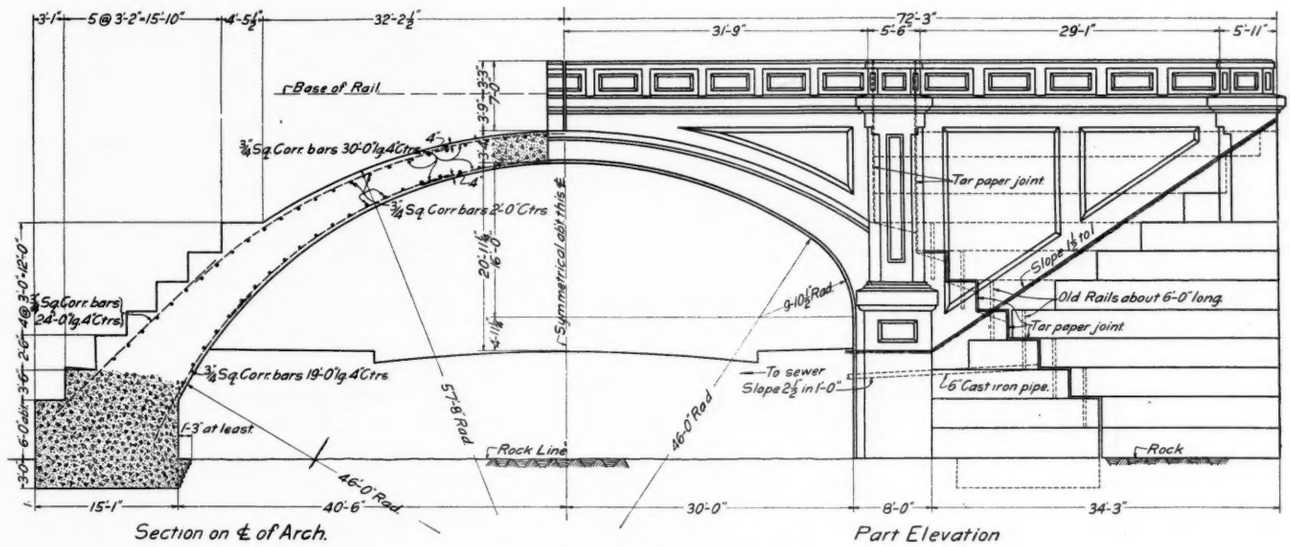
Alinement and Profile; Nickel Plate Connection to Collinwood.

construction work on this westerly section was described in the *Railway Age* of December 20, 1907, page 875.

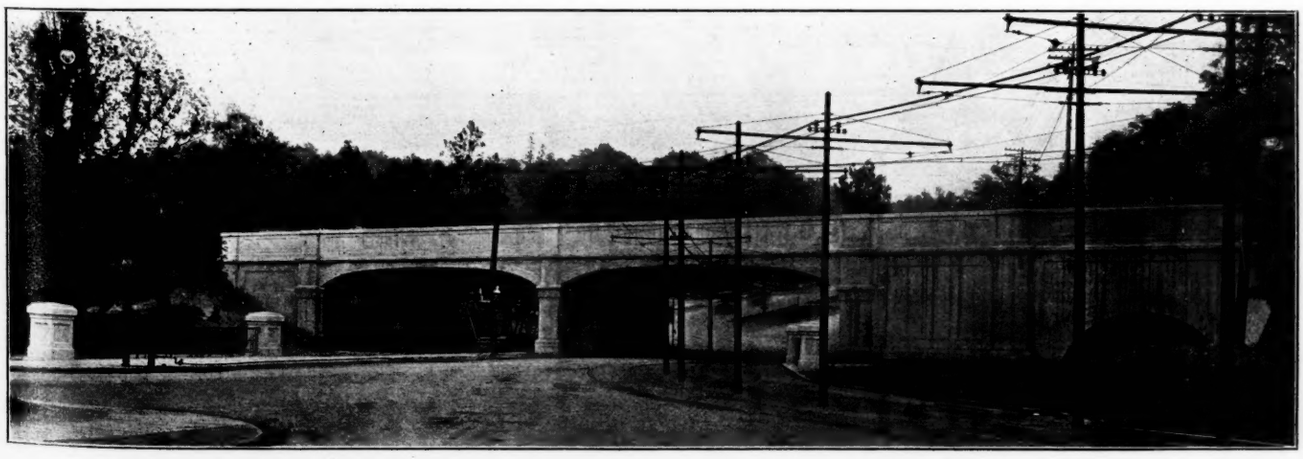
In September, 1909, the construction work was started east of Mill Creek Junction and extended about a mile, covering the tunnel territory hereafter described; construction work on the remaining portion of the line, east of the tunnels, was begun in April, 1910. The section from Rockport to Mill Creek Junction was placed in service early in 1910, and it is expected that the remainder will be in service in the spring of 1912.

The relation of the new line to the other roads and the city is shown on the general map reproduced herewith. From Rockport, about 9½ miles west of Cleveland, it runs almost directly east to Mill Creek Junction, and from this point turns northeast extending to the crossing over the Nickel Plate, which is then paralleled for about two miles, both lines being built on the same four-track roadbed, using similar construction. From the north end of this joint section the Short Line runs almost directly north to a connection with the Lake Shore just west of the Collinwood yard. The total length of the line, including the Nickel Plate section, is about 20 miles, and with the exception of about 2½ miles between the Collinwood connection and the Nickel Plate the maximum grade is 0.3 per cent. This 2½ miles is largely on a 0.74 per cent. grade, making a pusher grade, the intention being to use yard engines for the pushing service. The curvature is limited to 3 deg., except for one 4-deg. curve at the south approach to the Nickel Plate grade and line at 6-deg. curves at the Collinwood and Rockport connections with the Lake Shore. The connection at Collinwood is made on the north side of the Lake Shore tracks, to connect with the yard which is located north of the passenger tracks. Leaving the yard, the Short Line tracks run up between concrete retaining walls and over the Lake Shore tracks on through plate girders on concrete abutments, the Lake Shore tracks having been lowered about 7 ft. under this crossing to provide necessary clearance.

The section from Collinwood to the Nickel Plate contains nothing unusual in construction features, the principal structures being the reinforced concrete arches over Lake Front avenue and Eddy road. Eddy road was relocated to cross the new line at right angles, it having formerly crossed at a sharp angle. This is an arch with an 81 ft. span and a maximum clearance over the roadway of 20 ft. 11¼ in. The arch barrel is 58 ft. 6 in. long between spandrel walls, and is designed for four tracks. The arch crown is 3 ft. 4 in. thick, reinforced with ¾-in. square corrugated bars parallel with the center line of the arch spaced 2 ft. center to center, in both the upper and lower reinforcing planes, and similar bars, perpendicular to the center line of the arch, are spaced 4 in. center to center in both planes. The abutments are benched 3 ft. into solid rock. The entire extrados of the arch ring is waterproofed with Tartex waterproofing felt. The spandrel walls are ornamental in design, and are surmounted by a parapet cast in place after the completion of the structure.



Elevation of Eddy Road Arch.



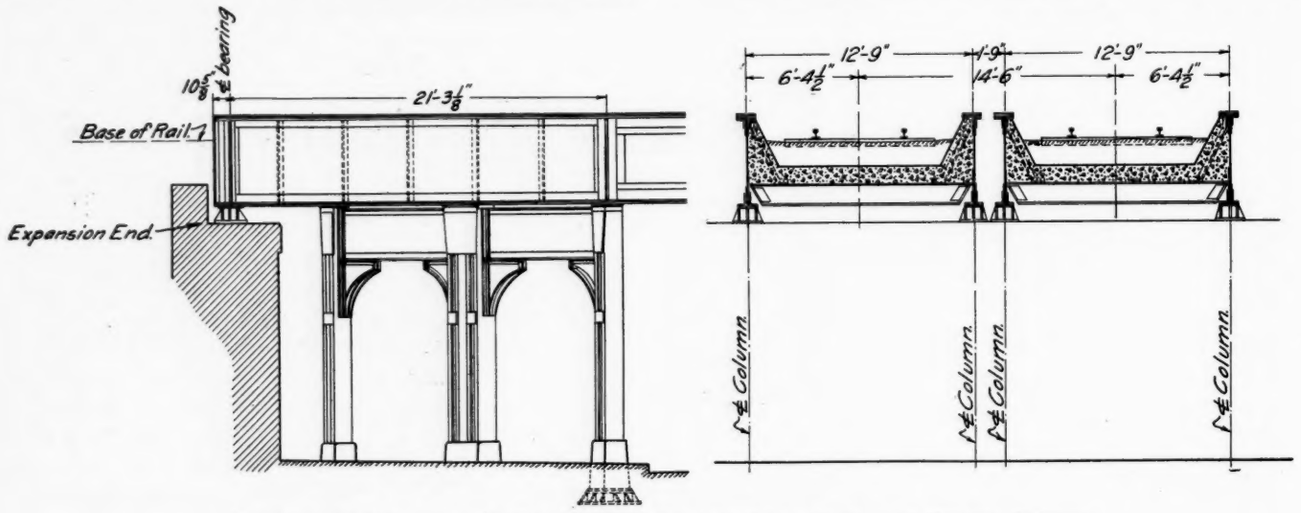
Cedar Avenue Subway and Doan Brook Crossing; Cleveland Short Line.

A 1:2:4 concrete mixture was used in the arch ring and ornamental work, and 1:2½:5 in the rest of the structure. The exposed surfaces are dense and smooth and all exposed edges chamfered. It is the intention to bush-hammer the exposed surfaces of this structure.

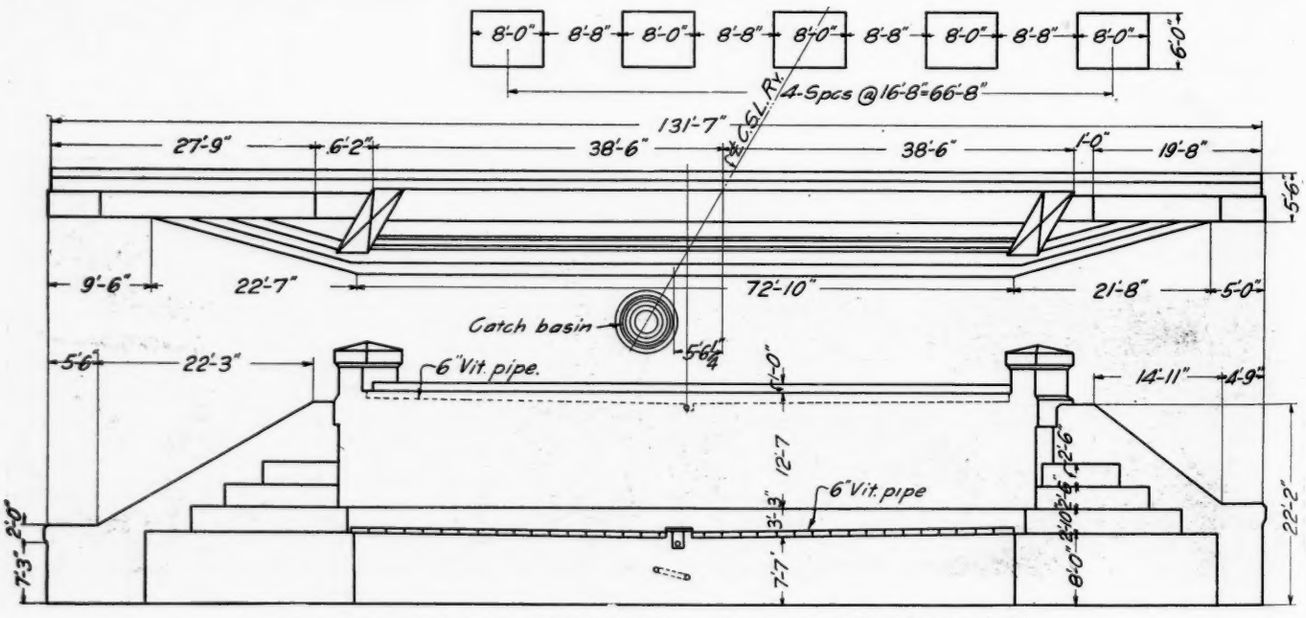
Through the section in which the Nickel Plate and Short Line are built on one roadbed, and for some distance either way, a total of about four miles, the Nickel Plate is separating railway and street grades. On the joint section, which is between 105th street and Superior avenue, the roadbed and structures carry four tracks, two for each company. This section is through a residential portion of the city and crosses a number of fine boulevards. The structures over these boulevards were very carefully designed, to secure pleasing effects. The bridge over the East boulevard is a through plate girder, with a false concrete arch side elevation and concrete spandrel walls. The facing concrete in this structure is red, this color having been secured by using red granite screenings and iron oxide. The line crosses Cedar avenue and Doan brook with one harmonious structure, consisting of a long arch for the avenue with a shorter span for the stream, illustrated herewith.

At the south end of the joint line the Nickel Plate dips on a 0.5 per cent. grade and the Short Line raises on a 0.3 per cent. grade, crossing over the Nickel Plate on a through girder, and then crosses a number of streets within a short distance. Similar designs were adopted for all of these subways, the one illustrated in the accompanying cuts being typical. Through plate girders with reinforced concrete floors are carried on concrete abutments and steel columns. The abutments are built for four tracks, are paneled on the street side and include short parapets above the bridge seat to hide the ends of the girders. The abutments of the bridge illustrated require 1,364 yds. of concrete.

South of these subways and extending as far as Mill Creek Junction, the road runs under the cross streets. At one of these, Kinsman road, a special design was adopted for the crossing. This is a prominent highway, crossing the line at an angle of 65 deg., and a 38 ft. roadway with double street car line and two 8 ft. sidewalks are provided. The structure has a clear span over the tracks of 87 ft. 6 in., providing for six tracks, which it is expected will be required at this point. The roadway is supported between steel arch ribs encased in concrete resting on concrete abutments, carried down to solid rock. The details of the abutments are shown herewith; also a photograph of the east abutment before the erection of the arch ring. Five steel hangers hung from each of the steel arch ribs and encased in concrete support the floor. The floor beams are built-up sections



Elevation of Columns and Side Walk Girder and Cross Section of Typical Subway.



Plan and Rear Elevation of Typical Subway Abutment; Cleveland Short Line.

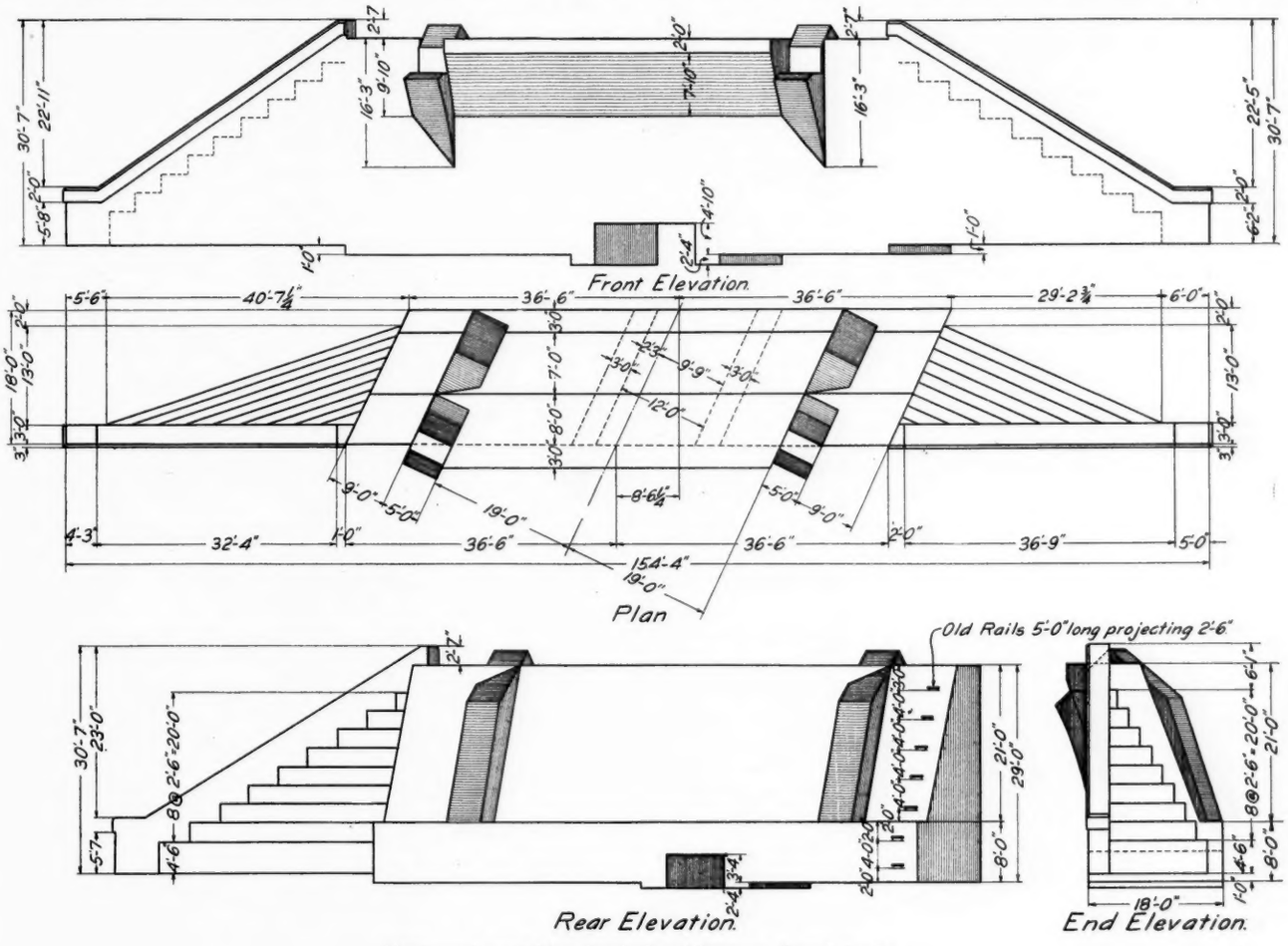
encased in concrete. The floor slabs are continuous, encasing steel stringers. They have a maximum thickness of 1 ft. 4 in. under the street car tracks and 9 in. under the roadway. The reinforcement in the floor slab under the track consists of ½ in. longitudinal bars spaced 9 in. center to center in both the upper and lower reinforced planes. In the remainder of the slab a single set of ½ in. longitudinal bars is spaced 12 in. center to center, and a single set of transverse bars of the same size, bent as shown in the detailed drawing herewith, are spaced 6 in. center to center, and in addition ¼-in. bars set on 6-in. centers, are looped around each stringer. The railing is of ornamental concrete with paneled faces. The lower surface of the concrete over each track is protected from locomotive gases by ¾-in. cast iron smoke plates 2 ft. 6 in. wide. The steel arch was 3-hinged, with pins at the shoe plates and at the crown. Concrete in the arch ribs are placed between A and B first, then between B and C, and after the erection of the closing angles at the center hinge, between A and A.

The Short Line at this point parallels the tracks of the Pennsylvania Company, and when the street was elevated over that company's tracks several years ago, the retaining wall on the south side of the street between the Pennsylvania and the then proposed belt line was designed to provide for an additional height to carry the street when it became necessary to raise it over the Short Line tracks. This wall connects with the south end of the west abutment. It is probable that in the future a yard will be built adjoining the line on the west between Kinsman road and tunnel No. 2, and to provide for that probability the west abutments of all street crossings in that section were designed to be used as piers in case the street bridges are lengthened.

The contractors for the concrete work on the eastern section of the line used high concrete distributing towers with good results.

At some points the vertical drop was as great as 40 ft. An open chute, supported on cables which also served as guys for the towers, carried the concrete to the forms. The pitch of these chutes was not less than 3½ to 12, as it was found that the concrete did not run freely on a flatter slope. For work close to the tower where the drop from the main trough would have been too high, an opening was made in the chute beyond the form and a second chute with the fall at right angles to the main chute carried the concrete to the desired location and elevation.

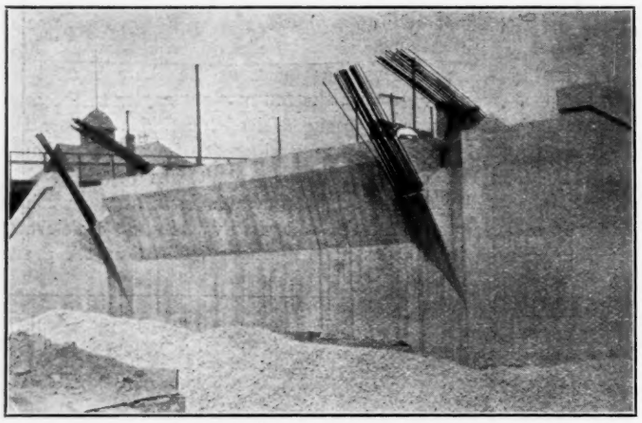
In excavating at Aetna road a good grade of gravel was found, and to utilize this a gravel washing plant was installed. The excavated gravel was dumped onto the platform of the washing plant from a clam shell bucket, and after washing it was elevated to 1 in. and ⅜-in. screens at the proper inclination. A gravel storage of 50 yds. and sand storage of 30 yds. was provided. The storage bins discharged to the level of the mixer-feeding platform, which also was connected with a cement car. A ½-yd. Smith mixer produced 15 yds. per hour under these conditions.



Abutment and Skewback for Kinsman Road Arch.

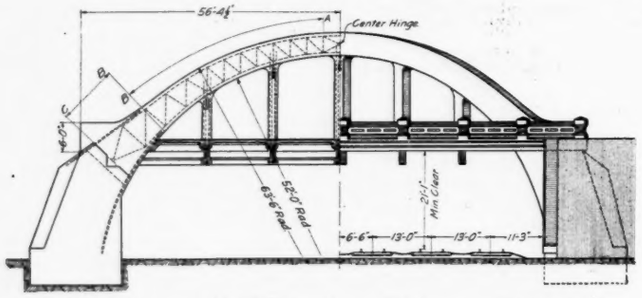
From Aetna road south to beyond the Pennsylvania tracks the road runs through a deep cut, with a maximum depth of about 55 ft., and at the points where it is necessary to carry existing streets or railway tracks over this cut concrete tunnel sections were built and were then back-filled to the original grade. The northerly tunnel, known as No. 2, is the longest, being 773 ft. The Erie, the Wheeling & Lake Erie and the Newburgh and South Shore, a switching road of the American Steel & Wire Company, all run over this tunnel, and the problem of caring for these railways during construction was difficult. The north portal is just north of the Erie crossing, and it was found advisable to shift the tracks of that company about 50 ft. north to

allow the tunnel work to be completed nearly to the portal and then to shift the tracks back over the completed section of the tunnel while the portal was built. The crossings of the other railways were maintained on deck girder spans resting on



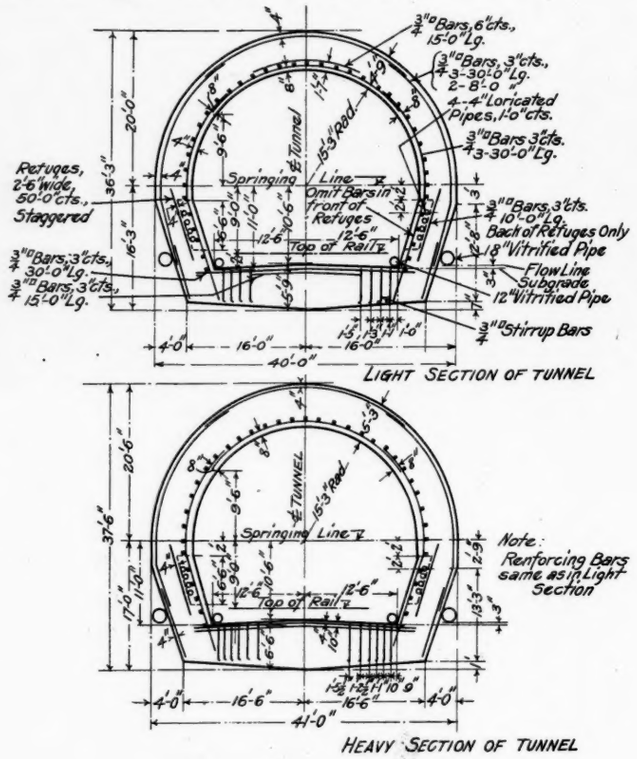
South Abutment of Kinsman Road Arch Bridge.

pile bents driven on each side of the cut as the work progressed. The girders thus used were the ones provided for the second track of the Cuyahoga river viaduct, and after they have served for these temporary crossings they will be erected in that struc-



Half Section and Half Elevation of Kinsman Road Arch.

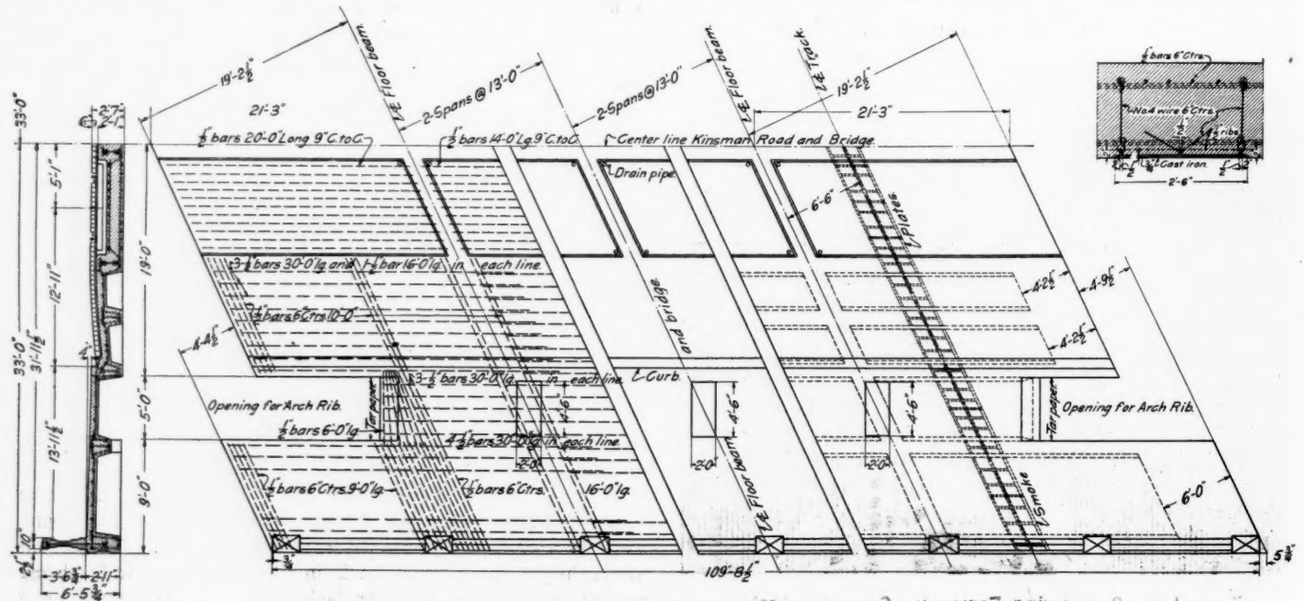
ture. The opening of this cut blocked pedestrian travel in such a way that it was necessary to provide a temporary foot bridge south of the Wheeling & Lake Erie tracks to care for this travel. The location required a 240-ft. span, and to avoid driving piles in the slope, thus obstructing steam shovel and concrete work, a suspension bridge was decided on. This bridge is a good example of the incidental problems which must constantly be met and solved in connection with construction work of this character. It is of substantial frame construction suspended from two 1¾-in. cables, anchored in pits containing 50 tons of pig iron on old bridge ties. The cables are 7 ft. 4 in. center to center, the clear space between timber trusses being 6 ft.



Cross Sections of Tunnel No. 2.

The material encountered in tunnel No. 2 cut was gravel and fine water-bearing sand. The excavation was handled by steam shovel down to about the elevation of sub-grade and by a small Thew shovel below sub-grade for the tunnel invert. Some of the material was removed in scale boxes carried on narrow gage cars and used for back-filling over tunnel No. 1 and the Harvard avenue arch.

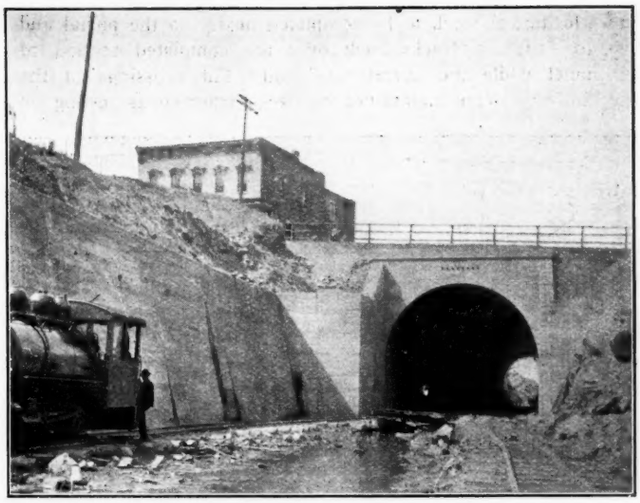
The concrete in the tunnel section was placed in three separate



Plan of Kinsman Road Arch; Cleveland Short Line.

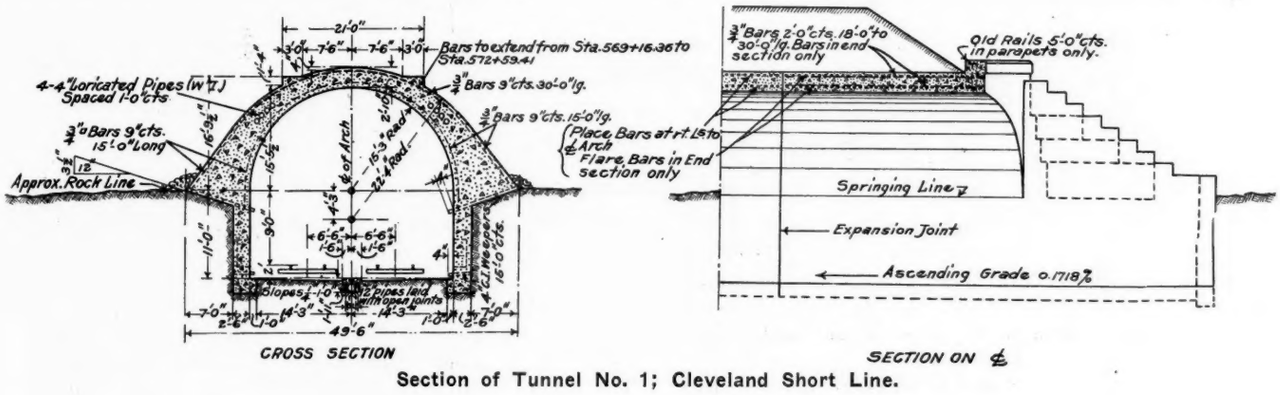
stages; first, the invert; second, the side wall up to the springing line; and third, the arch ring. Concrete was supplied by a storage and mixing plant on the original ground elevation located a short distance east of the work, this location being well adapted to bringing in the concrete materials shipped in over the W. & L. E. The material was hauled in cars to the mixer, which was located midway between the ends of the tunnel at the top of the east slope of the excavation. The concrete was handled from the mixer into small cars hauled on a narrow gage track in the bottom of the excavated section. The invert was placed direct from these cars. For placing the side walls the buckets were lifted from the car trucks by a locomotive crane and dumped into the wall forms. In placing the arch the car bodies were picked up in the same manner and the concrete dumped into small push cars running on a narrow gage track over the arch forms on the center line of the tunnel. The arch forms were supported on 8-in. wedges set between the wall plates, so that, when a section of concrete had set, the wedges could be drawn, the form dropped on rollers running on the lower wall plate, and 75-ft. sections of the arch form moved ahead by a donkey engine.

Two cross sections were used in tunnel No. 2, the lighter section being 222 ft. long, located at the south end, where the fill is about 10 ft. shallower than for the remainder of the distance. Both sections are reinforced with ¾-in. square bars. Longitudinal bars are placed in the end sections only, spaced about 2 ft. center to center in the inner reinforcing plane. The lateral bars are spaced 6 in. center to center in both the upper and the lower planes. Drainage is provided by two 18-in. vitrified pipes outside of the side walls and two 12-in. pipes inside the section, approximately at sub-grade level. Expansion joints are spaced about 50 ft. apart.



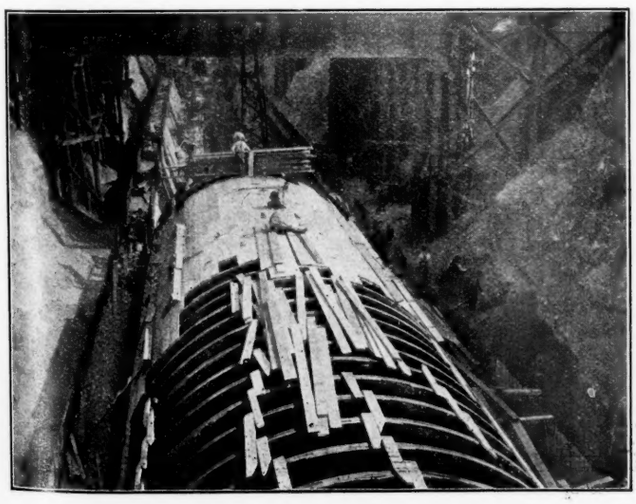
Retaining Wall and Short Tunnel Under Street.

which are carried over arched sections similar to the tunnels. Cannon and Booth streets which have foundation conditions like tunnel No. 2, have sections identical with it. Tunnel No. 1 is considerably modified from the plan of No. 2, because rock level at that point is about at the same elevation as the springing line,


Bars to extend from Sta. 569+16.36 to Sta. 572+59.41
4-4" Ioricated Pipes (w/ T) Spaced 1'-0" cts
¾" Bars 9" cts. 15'-0" Long
Approx. Rock Line
¾" Bars 9" cts. 30'-0" lg.
¾" Bars 9" cts. 15'-0" lg.
Place Bars at rt. ∠s to ℄ Arch
Flare Bars in End section only
Slopes 1:1
2 pipes laid with open joints
49'-6"
CROSS SECTION
¾" Bars 2'-0" cts. 18'-0" to 30'-0" lg. Bars in end section only
Old Rails 5'-0" cts. in parapets only.
Springing Line
Expansion Joint
Ascending Grade 0.1718%
SECTION ON ℄

Section of Tunnel No. 1; Cleveland Short Line.

Tunnel No. 1 is 343 ft. long and extends under Broadway and the C. & P. tracks. Between these tunnels there are three streets which are carried over arched sections similar to the tunnels. Cannon and Booth streets which have foundation conditions like tunnel No. 2, have sections identical with it. Tunnel No. 1 is considerably modified from the plan of No. 2, because rock level at that point is about at the same elevation as the springing line, permitting the section of the tunnel below that point to be considerably lightened. No invert is provided and the side walls are not reinforced. The section of the arch ring is spread at the springing line to secure ample bearing on the rock. The arch construction at Harvard avenue is similar to that of tunnel No. 1, except that the foundation of the skewbacks runs down to sub-grade elevation, at which point solid rock was encountered.



Tunnel No. 2, Showing Forms for Concrete Arch.

A large amount of water flows from the water-bearing material surrounding tunnel No. 2, and the space intervening between No. 2 and No. 1, to care for which one 24-in. pipe is laid along each side of tunnel No. 1 below sub-grade. Four-inch cast iron weepers are placed every 15 ft. just above sub-grade, and also at the springing line of the arch. Eight 4-in. wrought iron pipe telegraph and signal wire conduits are carried from end to end in the arch ring masonry of all these tunnel sections. The sewer in Broadway at the north end of tunnel No. 1 was so low that it encroached on the limits of the tunnel section, and a special design had to be made to care for it. Steel trusses each side of the sewer take the weight, and the entire construction was encased in concrete.

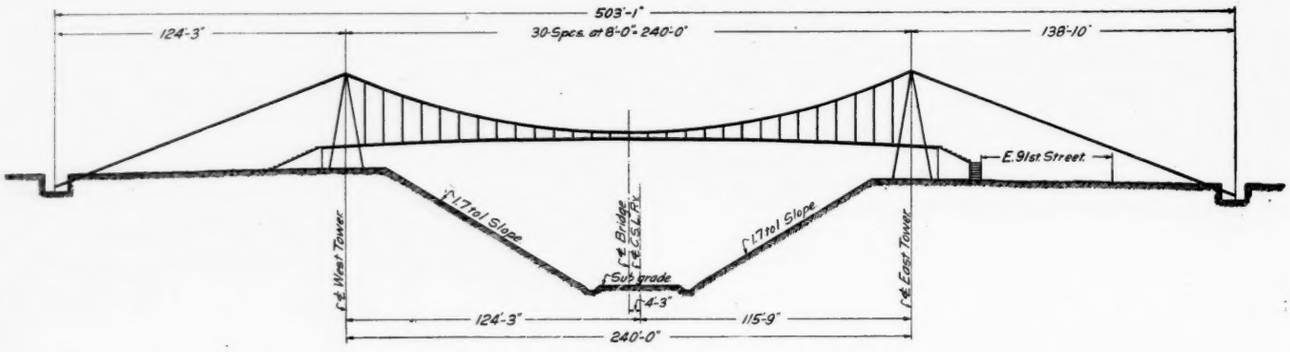
A short distance west of tunel No. 1 the line crosses Mill creek on a 60-ft. fill and the stream is carried under this fill with a 45-ft. arch; 1,500 ft. further west a second crossing of this same stream is made on an 85-ft. fill with a 50-ft. arch for the stream and a box subway for a branch track of the B. & O. On account of the height this fill was made in two lifts, the first lift being carried up half the height by laying a construction track on a

switch-back around the point of the hill, shown in the left of the photograph. A second trestle was built on this fill and material dumped from it to bring the grade to the desired level. The Mill creek arch and the method of making this fill are shown in an accompanying photograph.

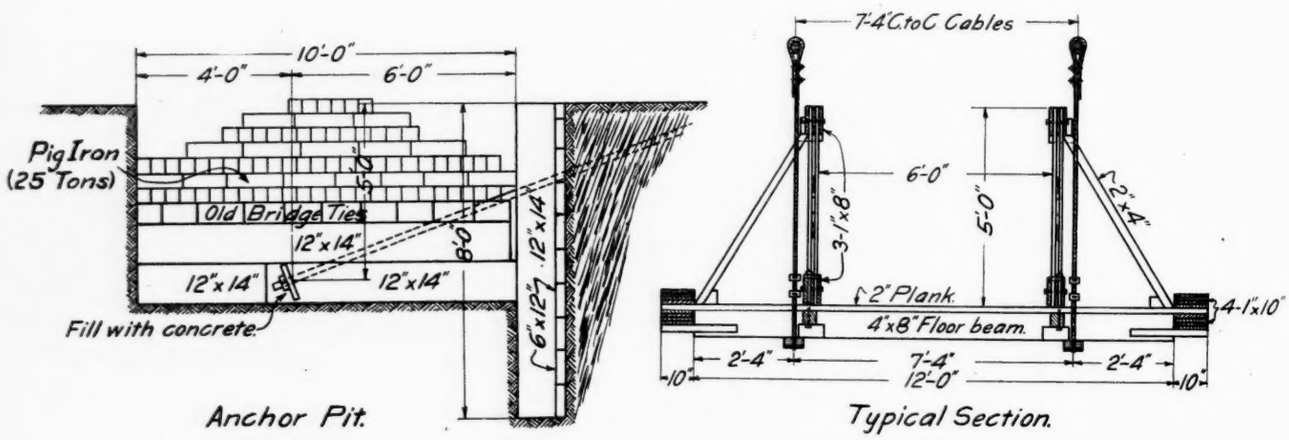
From Mill Creek Junction west, which is the point of connection with the L. E. & P., the line is now in operation. There was considerable heavy earth work on this section, and the principal structure is a high steel viaduct over the Cuyahoga river, the Ohio canal and the C. T. & V. branch of the B. & O. This viaduct is 1,988 ft. long, with a maximum height of about 160 ft. Between the viaduct and the connection at Rockport the Big Four and the C. L. & W. branch of the B. & O. are crossed at grade. Each crossing is protected with an American Railway Signal Company all-electric interlocking plant with upper quadrant indications. The illustration shows the plant at the B. & O. crossing. The interlocking tower of white concrete blocks is typical of the construction which the L. S. & M. S. has used extensively for this purpose in the last two years.

At the westerly connection of the Short Line with the Lake Shore at Rockport, the west bound track is depressed under the Lake Shore tracks, which were raised about 15 ft. to allow this connection to be made without a grade crossing. This elevation of the Lake Shore tracks also involved the separation of grades with a country highway.

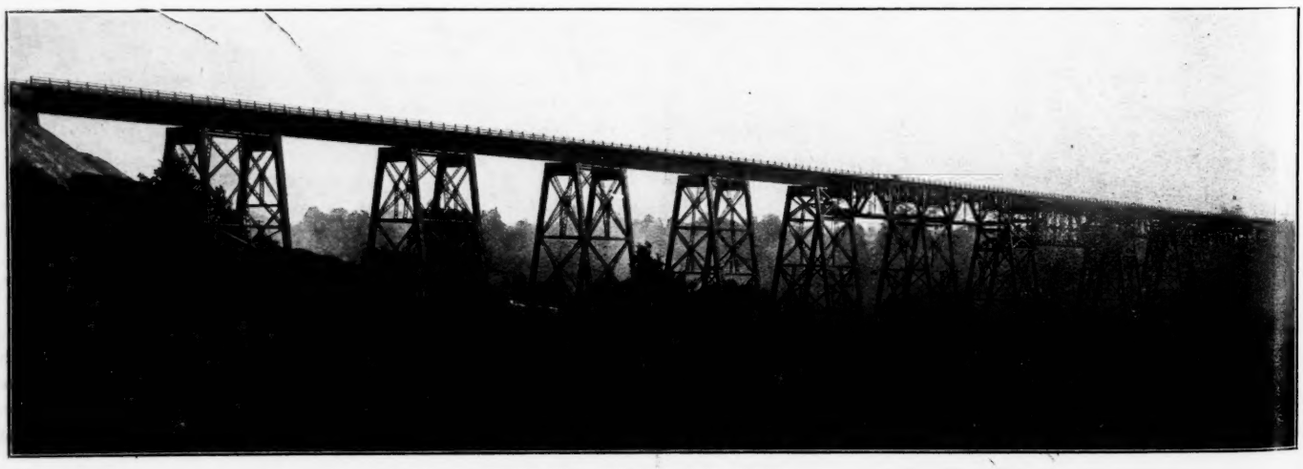
A great deal of granulated slag was used in the filling for this line and for the present this material is also used as ballast. The standard track construction is 80-lb. rail on 6 in. x 8 in. x 8 ft. ties.



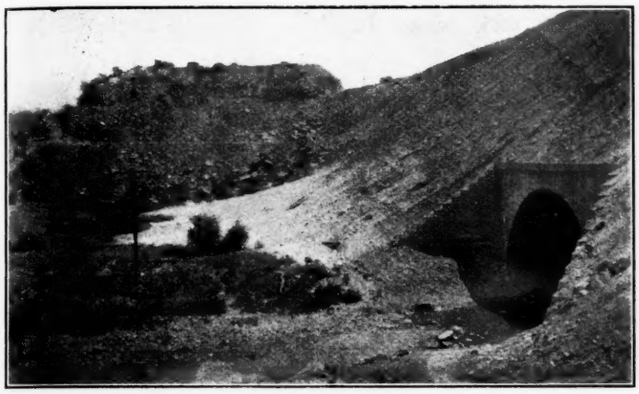
Elevation of Suspension Foot Bridge.



Details of Suspension Foot Bridge.



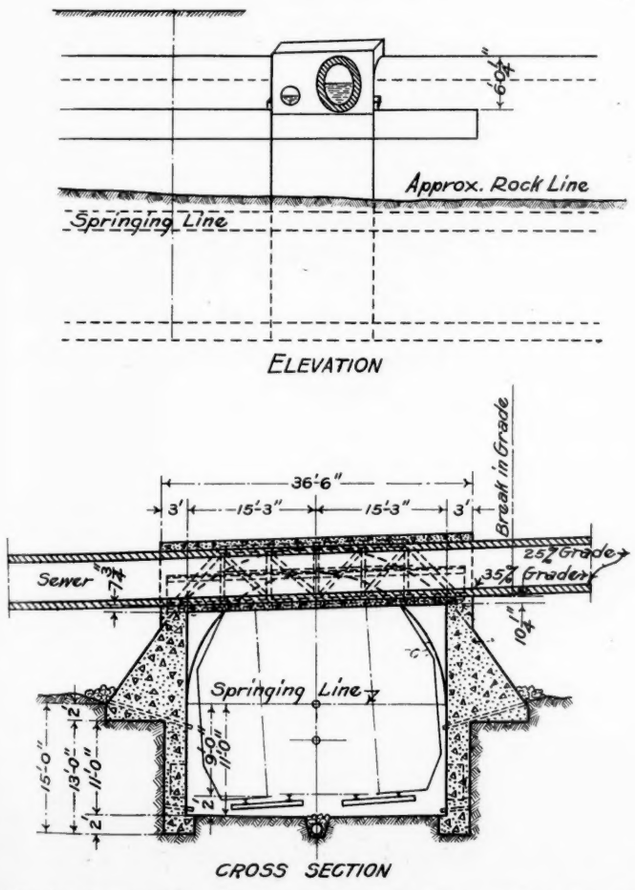
Cuyahoga River Viaduct.



Mill Creek Fill, Showing Switchback Used in Construction.

One of the standard through girder highway crossings on the westerly section of the line is shown herewith, which also shows a portion of a concrete flume built to carry a small stream under the highway and under the track, where, on account of the very scant under-clearance, it was necessary to get an absolutely smooth waterway to insure proper flow.

The contractors on the section of the line now under construction are H. E. Culbertson & Company, J. C. Cariand & Company,



Special Construction in Tunnel No. 1 to Care for Crossing of Sewer; Cleveland Short Line.

and the Robert Grace Contracting Company. The work is being done under the direction of Samuel Rockwell, chief engineer of the L. S. & M. S. and the lines directly operated and controlled by it, and under the personal supervision of J. H. Roach, division engineer, to both of whom we are indebted for the above information.

LETTERS FROM AN OLD RAILWAY OFFICIAL TO HIS SON, A GENERAL MANAGER.*

XX.

Tucson, Ariz., August 19, 1911.

My Dear Boy:—Do you think it logical and just to pay a train (including engine) crew the same wages for going over the freight district with a light caboose as with 50 or 75 cars? Be careful how you answer.

As I understand it, the train-mile was adopted as a unit of compensation for employees on the theory that piece work rewards the deserving and promotes efficiency. Whatever the merits or demerits of the piece work theory, I have never been able to reconcile its applicability to train service. A man operating a machine in a shop can stop or start his individual machine, can save steam power or electric current without seriously inconveniencing his fellow workers or the general operation of the plant. A railway train cannot move regardless of all other trains on the road. Such independence of function will cause either a criminal collision or an expensive blockade. A train must, therefore, move according to a time-table and orders. The space occupied by a train, unlike a stationary machine, is so variable that time becomes the essence of the proposition. The train crew cannot be allowed that freedom of action which permits of piece work. Too many arbitrary conditions are necessarily imposed to warrant a very extended application of a practical bonus system. One delayed train will upset the whole day's combination. On the other hand, the task imposed upon a train crew is extremely definite and easy to measure, when the equation can be solved for all the variables.

So fallacious a unit of compensation as the train-mile breeds numerous illogical practices. We penalize ourselves every time we run a train without full tonnage. Conditions of traffic may demand quick movement regardless of tonnage. When business is heavy terminals are congested and empty equipment is scarce. We all know that the way to relieve congested terminals is to run light, fast trains. This serves a double purpose, relieving the terminals and increasing the earning power of the equipment. Unfortunately our fundamental conception is so distorted that we mulct ourselves in money by doing that which is an obvious necessity. Why not so arrange our methods that we can be rewarded for quick judgment and prompt action?

A shop workman sups, sleeps and breakfasts at his own home. A train crew must have increased expenses when away from the home terminal. A train crew would really be ahead of the game as far as expenses are concerned if a round trip could be made within the sixteen hour limit and the away-from-home terminal expenses avoided. We say that demurrage is imposed primarily to hasten the release of equipment. We claim that normally we would rather have the cars than the dollars of demurrage. If cars are so valuable, how much should we charge ourselves for the hire of the fifty cars which are twelve or fifteen hours getting over the district?

We can work out by a mathematical formula the most economical scheme for fuel consumption and maximum tractive effort. It is more difficult to devise a formula to express the effect of drastic laws caused by poor service. Attempting to club converging live stock runs in big trains has caused, in some states, legislation covering the movement of stock. Perhaps this is offset by the claims save for missing the market with delayed stock. Is it not a sad commentary to think that legislation is necessary to make us do what is for our own best interests?

There can be no doubt that for a heavy and regular movement of low grade commodities on two or four track roads the big train is logical and economical. Most of the prairie roads are single track. Most of the distances between the prairie cities are relatively long. Stock, perishable freight and merchandise must have rapid movement. Is it wise under such a disparity of con-

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ditions to make the train-mile rigid and sacred? Why not pay men by the hour, with a monthly guarantee, and run trains sometimes light and sometimes heavy, sometimes fast and sometimes slow, to meet actual controlling conditions of traffic? When business happened to be light, equipment plentiful, and terminals open we would penalize ourselves in wages for slower movement, but would save in fuel, in engine house expense, etc. Just where the economical limit would be, just how it would all work out, I do not pretend to say. I do say, however, that the old methods can be improved when we start from proper basic conceptions. I do not believe that we yet understand the relation between increased cost of maintenance of equipment and decreased wages for train crews.

Perhaps because I had the honor of braking on a way freight I have never outgrown the idea of the practical trainman that a local freight is a traveling switch engine and a peddler of L. C. L. merchandise. Whatever may be the showing as to percentage of tractive power utilized I am unable to see the wisdom of a way freight dragging in and out of passing tracks all day with a lot of through cars. The claim is often made that a few big trains can be easily handled by the despatcher, because the number of meeting points is decreased. My own opinion is that this seeming advantage is often more than offset by the unwieldiness of the big train. Fear of censure for delaying some important train makes the conductor "leary" about starting and the despatcher timid about directing a prompt movement. When we begin wrong, how not-to-do-it methods always follow. The chief despatcher will let freight be delayed in a yard for a full train with power needed at the other end, if he can start a light caboose without its being included in the average train load showing. How much better, and how much easier, to run two fractional trains in the direction of unbalanced traffic than one light caboose and another dreary drag! The shipper, only a hard-headed business man, takes the same view. He becomes skeptical of all our statements, before commissions or elsewhere, because of our frequent seeming lack of judgment.

Let us not spend too much time in discussion as to theoretical possibilities. My assertions can be either proved or disproved by actual demonstration. In the next labor agreements you make include a stipulation for experiment on some division. My prediction is that if you can convince the labor leaders of your fairness they will give the scheme a trial for the sake of more possible time at home. With a full trial the results will speak for themselves. Success in such matters is made possible only by enlisting the most intelligent efforts of all concerned. Let your officials and employees understand that you do not claim to know it all, that you believe in their practical intelligence as well as in your own, that ideas are greater than men, and that right wrongs no man.

Railways have grown so fast that our conceptions of working units have sometimes outstripped practical possibilities in performance. Too frequently we make the unit too large. There must be a practical limit beyond which the train becomes too long for an economical unit of movement. The fact that we should have elasticity rather than rigidity in the size of our economical train emphasizes the necessity for defining the elastic limit. Practical experience and sound judgment must aid in interpreting and applying not only the laws of matter and physical nature, but the laws of sociology and human nature as well. After the lading for the trip is discharged, the car can not be sold or abandoned, as was the flat boat which Abraham Lincoln helped to float down the Mississippi river to New Orleans. Have you not seen cars pulled to pieces in big trains, have you not seen freight delayed in a manner to suggest to an innocent bystander that the road was perhaps running its last train and giving its cars their last load?

The inevitable tendency of the big train is to hold back and combine in large lots cars destined to the same point and to the same consignee. When a whole train can be unloaded at the ship's side at tidewater, or at a large consuming plant, the system is ideal. The trouble begins with the small consignee. Instead of giving him a regular, systematic delivery of the five or ten cars which he can unload each day, our tendency is to bring in twenty-five or fifty cars every five days or so, and then express our horrified astonishment at his failure to release promptly. No, we should not run special trains of five or ten cars for each consignee. What we should do is to watch the matter so carefully that we can feel certain we are considering all the factors of expense as well as that of seeming light tonnage. It may, under given conditions, be cheaper to run light trains than to put on expensive switch engines, to relieve unnecessary congestion in receiving terminals than to increase overtime and demoralize the road by pulling out drawbars when sawing by at short passing tracks. Sometimes money can be saved by balancing motive power as between steep and level territory.

As a good soldier and a faithful hired hand you must build up for yourself and your superiors the best possible record for train load. Carry out the policy consistently and loyally. At the same time study the subject. Do not have to flag in, but be prepared to run as a section of a better unit of comparison when the train mile loses its first class running rights.

Speaking of running in sections, you have doubtless thought how inconsistent and almost criminally dangerous is the method of displaying signals. We drill our men to watch the rear of the train for the presence of something, the markers, a positive indication. When the markers are seen, the train is complete and the opposing train can proceed in safety. If the train happens to be complete without displaying markers, or the markers are overlooked, the opposing train declines to proceed. An avoidable delay occurs, but the error is on the side of safety and away from a collision. At the head end, however, we tell our men to watch for the absence of something, the classification signals, a negative condition. When classification signals are *not* seen the train schedule is complete and the opposing train proceeds in fancied safety. If the train happens to be *incomplete* without displaying signals or the signals are overlooked, the opposing train proceeds just the same. No delay occurs, but probably a collision, for the error is on the side of danger and toward a collision. The practice should be reversed. The last or only section should display classification signals. A positive indication should replace a negative. Can the train rules committee of the ladylike American Railway Association beat the Interstate Commerce Commission to this unprotected draw? Cases of such avoidable collisions can be cited, even though "we never had one on our road."

Some roads prefer special schedules and extra trains to movement in sections. On the good old Big Four we handled everything possible in sections. I think this latter method the better. Theoretically yardmen, section men, tower men and all others should be always prepared for extra trains. Practically, the more information that can be disseminated among intelligent men the more effectively can they co-operate in preventing disaster or delay. There are fewer unlocked switches and fewer unspiked rails when information is not locked in the despatcher's office and not spiked down by too many train orders.

Affectionately, your own,

D. A. D.

The new railway from the Bay of Caraquez, Ecuador, to Quito, which is being constructed by a French company, is making rapid progress. In the early part of 1911 trains were in operation as far as Calceta, a distance of 34 miles. The total length of this line from the coast to Quito is 186 miles, being much less than that traversed by the older railway from Guayaquil. The route passes through a fertile region, capable of being developed so that immense quantities of cocoa and other valuable agricultural products can be grown with a minimum outlay of capital and labor. A branch from Calceta to Ricauarte via Canuto and Chone has been authorized, also another branch which is to run along the Daule river and terminate at Guayaquil.

ELECTRIC RAILWAY CONVENTION.

The annual convention of the American Electric Railway Association was held in Atlantic City, October 10-13. The following abstracts of committee reports and discussions cover such of the subjects as are of the most interest to our readers.

BLOCK SIGNALS FOR ELECTRIC RAILWAYS.

The committee, acting on instructions from the two associations named, held meetings in New York in January, Chicago in March, and Pittsburgh in June; and conferences were had with manufacturers of apparatus and also with steam railway men. The report begins with a definition of the block system and a few brief historical paragraphs. The committee secured information by circulars from such electric railways as are using the space-interval system and from a list of 50 such roads it appears that 10 use automatic signals with continuous track circuits. Signals made by the Union Switch & Signal Company are in use on the Auburn & Northern, the Boston Elevated, the Hudson & Manhattan, the Illinois Traction, the Interborough Rapid Transit, the Philadelphia Rapid Transit and the Syracuse, Lake Shore & Northern. Signals made by the General Electric Company are used on the Aurora, Elgin & Chicago. Signals made by the General Railway Signal Company are used on the Hudson & Manhattan and the Washington Water Power Company's lines.

The Boston & Worcester Street Railway, operating 48 miles of line, of which 60 per cent. is double-track, uses the O'Bryan system, made by the railway company. This system is automatic, but without continuous track circuits.

Nineteen companies use some kind of automatic apparatus actuated by a trolley contact device, the principal makers represented being the United States Electric Signal Company, the Nachod Signal Company and the Eureka Automatic Block Signal Company. Sixteen companies use light signals controlled by hand levers operated by the conductor or motorman. The Toronto & York Radial Railway uses the Simmen despatching system. Three companies use the Blake signal (not a block signal), and three use the Stromberg-Carlson. Seventeen companies report trolley contact and hand-operated signals as having been in use five years or more; a few of them nine or ten years.

The report contains a copy of the bill to make block signaling compulsory, which was sent to congress by the Interstate Commerce Commission in 1903, with extracts from the commission's report on this subject. (This bill is still before Congress.) The committee also presents a transcript of the law of Wisconsin, passed this year, empowering the railway commission of that state to require the use of the block system "or other safety device or measure as may be necessary to render operation . . . reasonably safe." The similar action of Indiana, which goes into effect next January, is also noticed; and it is said that the Public Service Commissions appear to have authority to require the installation of block signals in Maryland, Massachusetts, Minnesota, New York, Nevada, Oklahoma, Oregon and South Dakota. No mandatory order has been promulgated in any of these states. The Indiana Commission is actively studying the subject.

Twenty companies have reported to the committee their plans for new signaling to be installed this year or in the immediate future. The principal items under this head are as follows:

Public Service Corporation, Newark, N. J.; 121 additional blocks; U. S. Electric.

Hudson Valley, Glens Falls, N. Y.; 5 miles additional; U. S. Electric.

Wheeling Traction, Wheeling, W. Va.; 45 miles trolley contact; is trying the Nachod and the U. S.

Worcester Consolidated, Worcester, Mass.; 25 miles; U. S. trolley contact.

Chattanooga R. & L., Chattanooga, Tenn.; 4 miles; Nachod.

Elmira & Seneca Lake, Elmira, N. Y.; one additional block; U. S.

Hudson & Manhattan, New York City; additional electro-pneumatic; one mile.

Boston Elevated, Boston, Mass.; additional electro-pneumatic; 3 miles.

Syracuse L. S. & N., Syracuse, N. Y.; 10.5 miles additional (single track); Union S. & S. Co.; also on Rochester S. & E.; 16.5 miles; same type.

Boston & Worcester, Boston, Mass.; 31.5 miles additional; O'Bryan system. These signals are mostly isolated sections on curves.

Ohio & Southern Traction, Columbus, Ohio; 7.5 miles; Stromberg-Carlson.

Oregon Electric, Portland, Ore.; 7 miles; automatic, continuous track circuit.

Washington & Rockville, Washington, D. C.; 3 miles controlled manual; Ramsey system.

Lehigh Valley Transit Company, Allentown, Pa.; plans being made by General Railway Signal Company for two block sections; signaling of 60 miles contemplated.

Waterloo, C. F. & N., Waterloo, Iowa, will install signals at ten curves.

Cedar Rapids & Iowa City, Cedar Rapids, Iowa; intends to signal 25 miles.

Roanoke R. & L., Roanoke, Va.; plans to signal ten miles.

This concludes the report proper. The committee deems it unwise to formulate definite conclusions because of the constant development going on in the art of signaling, but thinks that, perhaps, it may be practicable to make recommendations a year hence. The committee believes it desirable to divide electric railways for signaling purposes into five classes, namely: single track suburban, low speed; single track interurban, higher speed; single track interurban, highest speed, with long time intervals; same with more frequent trains; double track, with very frequent trains.

The appendices make up five-sixths of the pamphlet containing the report. These contain carefully prepared and elementary descriptions of track circuit systems and control circuits, most of the material having been furnished by the General Railway Signal Company and the Union Switch & Signal Company; light signals, as used on the lines of the Pennsylvania Terminal, New York City; relays and semaphore signal mechanisms; illustrated descriptions of recent installations on the Illinois Traction System and the Washington Water Power Company's line; Kinsman block system, with a counting-in and counting-out apparatus; the Nachod signal; the Blake despatchers' apparatus; the General Railway Signal Company's and the Western Electric Company's selectors; the Baird and the Stromberg-Carlson systems; the Sandwich selector; the United States Electric Company's selector system; the Gill selector and the Simmen despatching system. Prentice's wireless automatic train stop installed on the Canadian Pacific at Toronto, is mentioned, but only briefly described, reference being made to the illustrated account of the system which was published in the *Railway Age Gazette*, June 23, 1911.

EXPRESS AND FREIGHT TRAFFIC.

The committee on express and freight traffic gathered information from 110 companies concerning the way in which they deal with merchandise traffic and the success that has attended the operation of that department. The data is summarized in three tables: One for the north Atlantic states, one for the south Atlantic states and one for the northern central states. Of the 110 companies reporting 92 do either express or freight business. Only four companies report any restrictions in connection with their franchises. The 92 companies do merchandise business in 917 cities and towns. Twenty-seven companies employ solicitors and 37 do not; the rest do not answer as to this point. Eighty-one companies carry newspapers, 18 of which use express cars in addition to carrying papers on passenger cars; 26 companies do this work free and many others at very low rates. Most of the eastern roads carry baggage in express cars, but most of those in the West carry it largely on passenger cars. Of 30 companies in the Atlantic states reporting as to baggage, only 5

check it without charge, but in the West half the companies check baggage free. Sixty-three companies carry milk, the rate in nearly all cases being about 1½ cents a gallon. On most of the roads freight and express business has been established since the year 1900. Twenty-four companies report that it is profitable to carry freight at steam road rates, in motor cars, running singly, and 20 say that it is not. Twenty-two companies assist shippers by finding a market for their farm produce, six of them making a charge for the service. Forty-four companies carry carload freight.

The committee finds a great diversity of methods in operation in accounting and in equipment, but concludes that all of the different methods are in the main satisfactory, the differences having been necessitated by local conditions. But the time has come when standardization of methods is important. Electric lines now isolated are likely to be connected and through service will demand uniformity. Agreement should be had on uniform standard, for comparison, of car hours, car miles or ton miles. The express and freight business having proved profitable, all possible energy should be put forth towards its extension, and the association should promote study of the subject. Solicitors should be engaged; shippers and their interests should be studied, and the establishment of new industries should be fostered.

QUESTION BOX.

The Engineering Association issues a report each year called the Question Box, in which there are a large number of questions and answers bearing on the practical results obtained in street railway service. A number of the questions have a bearing on all railway operations.

Poles and Crossarms.—It has been the experience of the street railway men that crossarms or timber exposed to the air and not in contact with the ground should not be painted until thoroughly dry; because the paint, if prematurely applied, imprisons the sap and causes it to sour and so bring about rot. Some roads paint their crossarms as soon as they are received from the maker, "because they have no time to wait," and take the consequences, though it is recommended that it would be better to put them up as they are, if time is of value, and then paint them later when they have dried. This does not apply to the paint, which should in any event be applied to the surfaces in contact between any two pieces so as to keep moisture away from these surfaces. There is a difference of opinion, however, as to the value of creosoting crossarms. That it protects the wood and is economical from the standpoint of durability there is no doubt, but it is held that the painted arm is so much stronger than the creosoted that it is preferable on that account. As to the treatment of poles and arms best adapted to successfully withstand the ravages of an arid country, there were but two replies. One gave "avanarius carbolinium," and the other "none." There was comparatively little data produced regarding the relative life of treated and untreated chestnut and cedar to poles. The life of either in Pennsylvania average from 12 to 15 years when they are not treated; as to what they would be when treated there was no information. Westinghouse, Church, Kerr & Company said that cedar poles are benefited more by treatment than chestnut and that the treating of green chestnut poles adds but very little to their life. As for the substitution of concrete for wooden poles, it has been found to be "satisfactory but costly."

High Tension Voltage.—A peculiar condition of affairs is revealed by the question, "What do you call high tension? Why?" In every case but one the "why" was based purely on local conditions. That one was the case of the Canadian Board of Railway Commissioners, who specify as "high tension" conductors those having a potential of 10,000 volts or over, though the Canadian railway official making the report said that it is "our practice to call all transmission and distributing lines with a voltage of 6,600, or over, high tension lines for no particular reason except to distinguish transmission and feeder systems from the distributing systems of lower voltage." One said 11,000 volts was high tension because it is the only one "we have that cannot be handled while working." One called 33,000 a. c. high tension because it was a short way to distinguish it from d. c. Another took 13,000 volts because that was the only voltage in use on that road, where the linemen are not allowed to work with the current on. Some simply took the highest voltage in use and called that "high," whether it was 1,000 or 60,000 volts, while one dropped as low as 750 volts because anything above that is dangerous. In short, the term "high voltage" is merely a local technicality and is meaningless unless one knows the conditions governing its application.

Ballast.—In interurban work 8 in. is regarded as the proper depth of ballast to have beneath the tie, though some think that 6 in. is enough. This presumably relates to broken stone and gravel, though it is not always so stated. One reply puts it at 8 in. for broken stone, 15 in. for gravel and 18 in. for cinders.

Steel Ties.—It seems evident from the replies that steel ties are coming into favor, though experience with them has not yet been of sufficient duration to firmly establish them as an economical proposition.

Culverts.—The question hinged on the use of corrugated metal culverts, as compared with the smooth bore. The replies indicate that the use of such culverts has been satisfactory even up to a diameter of 72 in. It was suggested in one reply that it would be well to reinforce all corrugated culverts of 2 ft. and more in diameter where the depth of the fill is more than 10 ft. As for the small diameters, it is thought that the corrugations offer considerable obstruction to the passage of "water and trash" where the diameter is less than 24 in., which was, therefore, recommended by one road for the minimum diameter. From the replies received it apparently is not common practice to divide a culvert into a number of separate sections to prevent cracking, due to unequal settlement or poor foundations. Expansion joints are used to some extent whether the foundation be good or bad; and, where it is poor, poles, piles and timbering are used to stiffen it, but other than giving the culvert an ample bearing when built on a poor foundation no special provision is ordinarily made to prevent cracking.

Fuel.—The reports on the cost of unloading coal and delivering it to the boiler form a forceful commentary on the value of coal handling apparatus, especially where large quantities are to be moved. The best figures given for taking coal from cars, dumping into concrete pits and delivering to the hoppers above the boilers was 3 cents per ton. In this case the work was done with belt conveyors, but there is no statement as to whether this cost includes interest and depreciation charges or not. In another case, where the coal was unloaded from scows and was passed through a breaker and weighing machine, the cost was 5 cents, while the same company reported a cost of 22 cents per ton, where the work was done by hand and a wheelbarrow was the method of conveyance. With a grab bucket the cost was from 15 to 20 cents. The reason for burning wet coal seems to be, for the most part, that it is more easily handled and will not fall through the grates as readily as when it is dry. The opinion is expressed that this saving just about compensates for the extra amount of heat required to evaporate the water used. This saving in coal is estimated at 10 per cent., and the water is applied in the bunker, where, in one case where a mixture of pea and slack coal is used, it is given all the water it will hold. Such coal as this reaches the stoker carrying about 4 per cent. of moisture. It is considered that probably the greatest saving in burning pea and slack wet is in the labor. The damp coal mats and does not fall through the grate as badly as dry coal, thus lessening the handling cost. There is also, no doubt, a small saving due to the more even texture of the full bed, due to this matting cutting off the excess air and thus raising the percentage of carbonic acid gas. But when the cost in heat units of evaporating the moisture is taken into consideration, there is probably little gain outside the labor. Where bituminous coal is used it is considered better to burn it dry, as wet coal is unprofitable. There is no difference of opinion as to the effect of wet coal on the maintenance charges of the fur-

nace and stoker. While the use of a moderate amount of water has not, in one case, caused any excessive deterioration of the grate, it is generally conceded that the use of too much water on the coal is bad. For then the result is that the water will carry sulphuric acid from the coal with it, which, when coming in contact with the cast and wrought iron of the grate, will corrode it badly and in the course of time completely destroy the grates and stoker. The maintenance of the stoker will be greatly increased if the coal is burned too wet. The coal should never be wet enough to drip. As for the alternate wet and dry method of burning, there seems to have been no experience.

Center Plates.—Opinions as to the advantages of ball bearing center plates for trucks varies from the statement that they "have practically no advantage over well-lubricated oil bearing plates" and that they are "indispensable." The advantages cited for the ball bearings are that they lessen the flange wear of the wheels and make the cars ride more easily on curves. With decreased flange wear comes also a decrease in rail wear on curves. The disadvantage is that they may produce an objectionable swinging motion of the car, especially on the older types of trucks and particularly where the truck joints are somewhat out of surface. The ordinary lubricated center plate should be provided with a reservoir, which gives very satisfactory results as long as the oil remains. As for grease, it will not stay between the bearing surfaces of the center plates for more than one day's operation, and for this reason an oil must be used which will not change to grease in the winter. Machine fitted plates are recommended because they hold the car more steadily in the matter of longitudinal vibration than the ball or roller bearings, thus providing a better riding car. That the frictional resistance of the center plate has a decided influence on the flange wear is conceded, and it is therefore well to have the center plates thoroughly lubricated, because excessive friction will increase the flange wear. This applies especially to the steel wheel, one road saying that no difference in the wear of cast iron wheels could be detected. It is also necessary that the weights should be evenly distributed on the two sides of the truck. In one case, where this was not done, the flange wear was excessive, but it was almost entirely done away with by merely shifting the appurtenances on the car so that it was evenly balanced on its longitudinal axis. The heavy weight on one side produced an excessive side bearing wear, which prevented the truck from having a liberal lateral play, causing a lag on that side, resulting in excessive flange wear. This same rule holds good to some extent relative to producing an undue amount of friction in the center plates.

Wheels and Axles.—There seems to be some difficulty experienced in removing solid steel wheels from the axle. This is attributed, in part, to an improper fitting of the wheel to the axle, for which it is suggested that the axle should be highly finished at the wheel seat and the wheel center rough bored within 0.002 in. of the pressing fit and then taken to size with a smooth finish. White lead mixed with machine oil should be used. When these precautions are taken most of the difficulty will disappear. Still, it seems to be a common state of affairs that a pressure of 150 tons will have to be used to remove a wheel put on with 40 tons; and that, even then, heating or striking with a sledge may be needed to start it. The turning of steel wheels is governed, for the most part, by the flange and not by the tread wear. If they wear so that there is a variation of ⅛ in. in the circumference of wheels on the same axle they should be turned, but ordinarily they are run until the flange is cut, it being the aim to wear out 2 in. of tread with but one turning. The mileage of steel wheels on surface tracks is given at from 90,000 to 150,000 miles for a wear of 2 in. (radial) on the tread. On elevated service the Brooklyn Rapid Transit reports 200,000 miles for 2 in. radial wear. The difference in interurban and city service is shown by the statement that wheels will run 40 per cent. farther on the T-rail than on the girder rails. The rolled steel wheel has given a good account of itself in the matter of loose wheels, for there is an entire agreement of experience to the effect that, if properly fitted, they will not become loose. As for the built-up wheel, there seems to have been considerable trouble with bolts, nuts and tires working loose. It is pretty well agreed, too, that flanged brakeshoes are desirable and even necessary, especially on narrow tread wheels. It is claimed, in the first place, that a flanged shoe increases the braking effort fully 25 per cent., besides holding the shoe in its proper place on the wheel. Further than this, they wear down the wheel flange with the tread and, it is thought, eliminate the chatter. It has an advantage also at the start in that it adjusts itself nicely to the contour of the flange and tread and has a tendency to wear off the sharp edges of the flange. Slack adjusters are considered to have an important influence in increasing wheel and brakeshoe wear, and the estimates of this increase run from 10 to 15 per cent. Finally, it is recommended that axles on high speed cars be limited to a mileage of not over 300,000 miles, though one road recommends 200,000. When this mileage has been obtained the axle should be scrapped in order to safeguard against breakage.

EDUCATION OF APPRENTICES.

The committee made what was largely a progress report, and put forward some suggestions for a code of apprenticeship rules. The reason for the report was the need for well-trained men and the impossibility of obtaining them under existing conditions.

The discussion of the report brought out some interesting points. As matters stand, it is necessary to put up with incompetent workmen, men who want a job who are not really fitted for anything beyond the tasks of an ordinary laborer. The same condition holds, to a great extent, in the employment of apprentices. Through some personal influence a boy is put upon the apprentice force, not because he is anxious to learn a trade and make himself fit, but because he wants a job, and, having secured that, his interest is at an end.

It was urged that, in order for the apprentice to be of the greatest value afterwards, he should be given a somewhat broader training than that limited by the mere learning of his trade; that he should serve a part of his time in the power house, on the maintenance of way, and on line work, and that he should be given some experience in the offices, so that he may be somewhat conversant with the executive work and appreciate the relation existing between his own and the other departments. Then, too, he should be given some classroom work, taken in the company's time, so that he should know not only the "how," but the "why" of what he does. It was urged that theory was necessary to back up the practical, in order that he may do his work intelligently and to the best advantage. It is simply a case of teaching a boy to think, in order that he may work most efficiently. As an example of this method of training, it was urged that the system in use on the Atchison, Topeka & Santa Fe should be followed.

Speakers who had no system of classroom work to assist them, gave preference, in the selection of candidates for apprenticeship, to boys who had had the training afforded by manual training schools and the Young Men's Christian Association, because they had this necessary theoretical education.

The application of the course of apprenticeship, advocated by the committee, to power house work was opposed, because it has been found that theoretical and technical training is absolutely essential to a proper comprehension of the work. Here the training is carried to the point where the men are competent to fill supervising positions.

It was pointed out that in the last analysis the development of the man rested with the man and not with the course. And, for that reason, it was urged that the correspondence schools should be encouraged. With them the initiative and the advancement of the individual rests on the individual and not on some bolstering up he received from the outside.

Speaking for Boston, Mr. Winsor called attention to the many opportunities existing there for a man who wishes to

acquire a technical education, some of the night schools giving a training fully equal to the best technical schools of the country. Here then the need was for some system that would train men in a trade, and train men who would be willing to follow that trade when it was once learned.

Of course it was recognized that a strong specialist cannot be developed unless there is a broad general training back of it. But it is not specialists, but mechanics that are wanted.

BUILDINGS AND STRUCTURES.

The greater part of this report was applicable only to electric railway practice. Two of the subjects treated in appendices, however, are of broader application. These are: floor systems and fire protection.

Proper floor construction has an important bearing on the economical maintenance of permanent buildings. Concrete floors, with cement finish, probably come first for desirable construction. A cement floor properly installed hardly requires any maintenance and has proved very satisfactory. Some engineers go further than this, advocating cement floors for offices and men's rooms. It is doubtful, however, if the cement floor will be a satisfactory substitute for wood floor for the latter purpose. For portions of the machine shop, such as the wheel room and the smith shop, which are subject to excessive wear, the creosoted wood block on a concrete foundation is preferable. The wood block will wear better and is more easily repaired. On account of the difficulty of satisfactorily repairing cement floors, it is important that the installation be carefully made. It is recommended when the floor is laid on an earth bottom, generally to excavate first to a depth of 14 in., fill in 9 in. with good steam ashes, wet down and thoroughly tamp; over the steam ashes pour stone concrete 1-3-6, mix with ¾ in. broken stone, to a thickness of 4 in., and cut into blocks not larger than 6 ft. square. Before the concrete is set, the top, or wearing surface, is applied, which is composed of one part of Portland cement and two parts of clean, sharp sand, cut into blocks the same as the concrete underneath. Only as much concrete should be laid at a time as can be covered that day. The wearing surface should be thoroughly mixed dry, water added to give the consistency of plastic mortar, applied with a wooden float, and trowelled to a hard finish. The top, or wearing surface, should be made 1¼ in. thick. To get a permanent floor adjacent to the track it is necessary to lay the track in a substantial manner, with a good foundation, thus reducing the movement of the rail to a minimum. In 1905 the writer supervised 60,000 sq. ft. of cement floors installed as above described, and now, after seven years of hard usage, the floor is practically as good as when it was laid. Moreover, there is no breakage adjacent to the rail. Concrete floors improperly laid, especially when adjacent to unstable track, will rapidly break up, and are a very poor investment. A good substitute for the cement floor is ¾ in. broken stone, rolled down with screenings and ashes on 4 in. of good steam ashes, wet and rolled down. This will give good service. The rolled stone, or the ash floors are very satisfactory for small suburban waiting rooms, where loading platforms are wholly, or partly, exposed to the elements. It is surprising how dry these floors will be shortly after heavy rains. As already stated, wood block on concrete foundations makes the best floor for the heaviest service. Recently a treated cork block or brick, on a concrete base, has been advocated for heavy service floors. The principal advantage of this floor seems to be in weight, which, of course, would not be considered in a single story building. Wood or plank floors should be avoided wherever possible except for offices. They are the most costly type to maintain, are a bad fire risk, and deteriorate rapidly.

Two systems of fire protection in yards are described. The first is by standpipes fitted with Monitor nozzle, mounted at a level higher than the car roofs. This is used by the Cleveland Railway in its Woodhill yards.

The Interborough Rapid Transit has an open yard sprinkler equipment at the elevated car yards at 159th street and Harlem river, New York City. The yard consists of 33 parallel tracks, having a total length of 26,510 lineal feet, and a storage capacity of about 560 cars. About 75 per cent. of the tracks are on an elevated trestle and 25 per cent. on an ash fill. About 80 per cent. of this trestle is built of steel, the remaining 20 per cent. of timber, and this timber trestle is about to be replaced with a steel trestle.

Lines of aisle sprinklers have been placed between all tracks with ½ in. open sprinkler heads spaced about 10 ft. apart and located about 4 in. below the bottom of the top sash rail of the car windows. The total number of open sprinkler heads installed is 2,804.

The sprinkler piping is sub-divided into 45 sprinkler sections; each section is in general intended to protect three tracks for a length of about 200 ft. On an average there are 84 open sprinkler heads in each section. The sprinkler sections are supplied with water from a system of underground water mains. The water is supplied into the system from two sources, a steel tank, located at an elevation of 170 ft. above the tracks, and two three-stage vertical turbine pumps, each having a capacity of 1,500 gal. per minute at a pressure of 150 lbs. per sq. in.

The supply of water to each sprinkler section is controlled by electrically operated hydrant valves, operated from a switchboard in a watch tower 50 ft. above the tracks, from which there is a clear and unobstructed view of the whole yard. These valves can also be operated by a hand wheel on the spindle.

STANDARD COUPLERS FOR INTERURBAN SERVICE.

This is one of the subjects taken up by the committee on equipment.

The subject of standard couplers for interchange with steam railway equipment was suggested by the Central Electric Railway Association. This association recently adopted as standard a coupler of the M. C. B. type, but equipped with certain auxiliary features not applied to steam equipment cars, and the question was presented whether the adoption of this coupler be recommended.

The committee feels that some form of automatic coupler will probably be required. The handling of steam road equipment by electric roads is a matter already prominently before certain companies. Any automatic coupler adopted as standard by the Electric Railway Association for interurban cars should be of the vertical plane M. C. B. type. The height of center line of standard couplers should conform to the Interstate Commerce Commission requirements and to steam railway practice.

Many roads have adopted couplers of standard M. C. B. contour, or, in lieu thereof, couplers embodying in their construction the essential features of the M. C. B. coupler, but containing certain additional parts not found in steam railway practice. The need for these additions is felt by certain roads that are required at times to operate trains consisting of two or more cars coupled together over tracks in which there are sharp degrees of curvature and sudden changes in grade.

The use of a vertical plane coupler of the M. C. B. type with radial drawbar also introduces consideration of resistance against lateral buckling under heavy pushing strains, or under sudden brake applications where there is a variation in the braking effect on cars in the same train. The practice followed by different electric roads using M. C. B. type couplers in providing special attachments on their couplers to safeguard them against vertical uncoupling and lateral buckling is not, however, uniform, some roads having equipped their cars with couplers having such attachments, while others have considered them unnecessary and have either not provided them at all, or, after trial, have discontinued their use.

The committee feels that this question has become so acute on many of the interurban roads that an early adoption of a standard coupler is urgently needed. It presented a list of requirements essential to the coupler to be finally adopted as standard for interurban use.

HEAVY ELECTRIC TRACTION.

The committee presented for adoption as a standard a diagram of clearance lines for third rail structures and rolling equipment, after conferring with committees of the American Railway Association and the American Railway Engineering Association.

The committee also presented a diagram suggesting a standard location for automatic stops. This diagram conforms to the present practice of the Pennsylvania and the Long Island railways in New York City, and of the Hudson & Manhattan. In the third rail clearance diagram the distance from the gage line of the running rail to the nearest fixed structure at the side of the road is 19¾ in. For an automatic stop arm fixed on a sleeper at the side of the track, the committee proposes to allow a space 3½ in. wide, the center of which space is 12¼ in. from the gage side of the running rail. It is assumed that the stop arm will be 2½ in. wide. The proposed standard location for the third rail is 26 in. from the running rail (gage line to gage line); so that the automatic stop arm in the position proposed, would be 13½ in. from the third rail. Specifications for heat-treated carbon steel axles, shafts and similar parts were also presented. These are, in part:

A sufficient amount of discard must be made from each ingot to insure freedom from piping and undue segregation.

The steel shall conform to the following limits in chemical composition:

Carbon	Not over 0.60 per cent.
Manganese	0.40 to 0.80 per cent.
Phosphorus	Not over 0.05 per cent.
Sulphur	Not over 0.05 per cent.

Drillings shall be taken from the crop end of one axle, shaft, or similar part from each melt represented, parallel to the axis on any radius one-half the distance from the center to circumference, to determine whether the chemical composition of the heat is within the limits specified.

In addition to the complete analysis, the purchaser has a right to call for a phosphorus determination, to be made from turnings from each tensile test specimen, and the phosphorus must show within the limits called for.

The steel shell conform to the following physical properties:

Ultimate strength, lb. per sq. in.	85,000
Elastic limit, lb. per sq. in.	50,000
Elongation in 2 in., per cent.	22
Reduction of area, per cent.	45

The elastic limit shall be determined by extensometer. Above 40,000 lb. per sq. in., each increment of load shall not be more than 1,000 lb. per sq. in.

The test specimen used to determine the physical properties as specified above shall be taken from the crop end of one axle, shaft, or similar part, from each treating-plant heat, if more than one open-hearth heat is represented in a treating-plant heat, a test shall be taken from each open-hearth heat represented. A full-size prolongation shall be left on each axle, shaft or similar part.

A cold bend test shall be made from the crop end of one axle, shaft, or similar part, from each treating-plant heat; if more than one open-hearth heat is represented in a treating-plant heat, a test shall be taken from each open-hearth heat represented. The test shall be made with a ½ in. square specimen, not exceeding 6 in. in length, around a flat mandrel with edges of ½ in. radius, and the specimen shall bend, without fracture, 180 deg. around the said mandrel.

Specimens for tensile test and cold bend test shall be taken parallel to the axis of the axle or shaft and on any radius one-half the distance from the center to the circumference.

Each axle, shaft, or similar part shall be allowed to cool after forging, shall then be re-heated to the proper temperature, quenched in some medium, allowed to cool, and then re-heated to the proper temperature for annealing.

There was no real discussion regarding the first portions of the report. It was urged that the recommendations be referred to the committee on standards, so that the matter of third rail location and clearances might be put to letter ballot and decided before the convention of the American Railway Engineering Association.

As for the specifications for the heat treated axle, there was a decided difference of opinion regarding it. It was asserted and deemed that it would be quite possible to obtain all of the physical qualities called for in the specifications with ordinary steel of the chemical composition required. It was urged that, in the matter of the discard, identification marks and heat numbers should be stamped on each billet and axle. As for the tensile test specimen it was suggested that to take it from the crop end would be to take it from a point too near the place where the heat treatment had the greatest effect, for it to represent average conditions. In reply to this it was shown that the end of the test piece, taken from this point, was farther from the surface than it would be, were it taken from the center of the wheel seat.

The high phosphorus and sulphur contents of .05 per cent. were criticised and it was suggested that the manufacturers could easily meet an .04 specification. To this the committee replied, that the .05 per cent. was used because some consumers used acid and some basic steel in their axles, and that while an .04 content could be easily met in the basic steel, it would be a hardship to require it of the acid steel makers.

In answer to the criticisms that the parargraph on heat treatment was very indefinite, and that it really tells nothing the committee said that it was left in that condition purposely. Every manufacturer has his own idea as to what the heat treatment should be, and it was considered best to leave him a free hand and simply state the physical requirements of the finished product and allow those requirements to be met by whatsoever process might seem best.

The committee further explained that the object of this specification was not to limit the association to the use of heat treated axles, but merely to furnish a guide for those members, who, for any reason, might need to use a better axle than could be produced in the ordinary way.

On closure the whole report was referred favorably to the committee on standards.

EXHIBITS.

Allis-Chalmers Company, Milwaukee, Wis.—Steam turbine model, straight and automatic air-brake equipment, standard and interpole railway motors, self-cooled transformer, portable air compressor, section of brake cylinder showing Acco expander ring, sectional engineers' valve, sectional governor, repair parts for compressors and air-brake equipment, photographs of various apparatus and installations.

American Abrasive Metals Company, New York, N. Y.—Car step treads, floor plates, fire resistance surfaces, stair treads.

American Brake Company, St. Louis, Mo.—American automatic slack adjuster.

American Brake Shoe & Foundry Company, Mahwah, N. J.—Brake shoes and brake heads.

American Mason Safety Tread Company, Boston, Mass.—Karbolith flooring and safety treads.

American Railway Supply Company, New York, N. Y.—Time checks, conductors' badges, buttons, souvenirs, etc.

American Steel & Wire Company, New York, N. Y.—Rail bands and appliances for installing electrical wires and cables, right of way fencing, concrete reinforcement.

Anglo-American Varnish Company, Newark, N. J.—Reception booth.

Atlas Railway Supply Company, Chicago, Ill.—Atlas rail joints, compromise joints, special joints and one-piece joints, tie-plates and braces.

Automatic Ventilator Company, New York, N. Y.—Samples and models of the Automatic car ventilator.

Badger Fire Extinguisher Company, Boston, Mass.—Chemical engines both for buildings and outdoor use, hand chemical extinguishers for buildings and cars and a new small one-quart capacity extinguisher for use around electrical machinery.

Baldwin Locomotive Works, Philadelphia, Pa.—Motor and trailer trucks.

Berry Brothers, Detroit, Mich.—Railway varnishes.

Blake Signal & Manufacturing Company, Boston, Mass.—Despatchers' selective semaphore signals, soldering flux and wire specialties.

Brill Company, J. G., Philadelphia, Pa.—Semi-convertible prepayment car, trucks of various types, springs, fare boxes, car seats and seating material.

Cambria Steel Company, Johnstown, Pa.—Coffin process and heat-treated axles, 100 per cent. joints, Morrison guard rails, wire products, rails.

Carnegie Steel Company, Pittsburgh, Pa.—Schoen and slick wheels, slick rolled steel gear blanks, rolled steel car wheels, forged and heat-treated axles, steel sheet piling, steel hoops for slack barrel cooperage, Duquesne rail joints, steel cross ties, sections of track showing steel cross ties in concrete construction, vanadium steel axles, springs and bars.

Chicago Pneumatic Tool Company, Chicago, Ill.—Portable electric track drills, grinders and spike drivers, pneumatic hammers, drills.

Chicago Varnish Company, Chicago, Ill.—Ce-Ve painting and varnishing process.
Chicago Railway Equipment Company, Chicago, Ill.—Creco brake beams and side bearings.
Cleveland Frog and Crossing Company, Cleveland, Ohio.—Tongue switches, mates, frogs, crossings, switch stands, split switches, Kerwin portable crossover and other kinds of steam and electric railway special work.
Coe Manufacturing Company, W. H., Providence, R. I.—Ribbon gold and silver leaf, gilding wheels, bronzing powders and liquid.
Consolidated Car Heating Company, Albany, N. Y.—Car heaters, heat deflectors, thermostat for heat control, car signal system, switches and fuse boxes, ventilating stove.
Curtain Supply Company, Chicago, Ill.—Curtain fixtures, "Rex" all-metal rollers, "Rex" steel sash balance.
D. & W. Fuse Company, Providence, R. I.—Inclosed fuses, insulating materials, field and armature coils, magnetic chucks for grinding and milling machines and planers.
Dearborn Drug & Chemical Company, Chicago, Ill.—Reception booth.
Detroit Steel Products Company, Detroit, Mich.—"Detroit-Fenestra" solid steel window sash, Critall casement windows.
Dixon Crucible Company, Joseph, Jersey City, N. J.—Graphite lubricants, silica-graphite paint, belt dressings, dynamo and motor brushes, graphite wood grease and crucibles.
Drouvé Company, G., Bridgeport, Conn.—Anti-Pluvius puttyless steel constructed skylight for carhouses and Straight-Push sash operator for controlling long lines of sash from one point.
Duff Manufacturing Company, Pittsburgh, Pa.—Barrett track and car jacks, Barrett armature lifts, Duff ball-bearing screw jacks and Duff-Bethlehem hydraulic jacks.
Edwards Company, O. M., Syracuse, N. Y.—Window fixtures, all-metal shade rollers, metal trap doors, steel filing cabinets and furniture.
Electric Railway Equipment Company, Cincinnati, Ohio.—Tubular poles and pole fittings.
Electric Service Supplies Company, Philadelphia, Pa.—Keystone block signals, highway crossing signal, flag station signal, track drills, pneumatic gong ringers, lightning arrestors and other specialties adaptable to electric railway equipment.
Flood & Conklin Company, Newark, N. J.—Varnishes and surfacers of the Simplex system.
Flood Concrete Tie Company, Bridgeport, Conn.—Reinforced concrete ties, insulated ties and rail fastenings.
Forsyth Brothers Company, Chicago, Ill.—Pressed-steel doors, brass and steel window sash, weather strips, sash locks, pressed-steel step ladder, carline posts, unit-section side formations, deck sash operating devices, including ratchets, models of draft gear, buffing device, drawbar centering device.
Galena Signal Oil Company, Franklin, Pa.—Reception booth.
General Electric Company, Schenectady, N. Y.—Motors, portable air compressors, control equipment, air brake equipment, gears and pinions, rail bonds, headlights, transformer, oil dryer and purifier, high-pressure turbine, gas-electric car, fan motors, etc.
General Railway Signal Company, Rochester, N. Y.—The absolute permissive system of automatic block signals is shown by a working model. The miniature signals used are in circuit with full-sized universal signals; reactance bonds, semaphores, relays, light signals, switch box, signal transformers, switch indicators, selective system for use with either automatic signal systems or train despatching systems.
Goldschmidt Thermit Company, New York, N. Y.—Appliances for welding by the Thermit process, moving pictures showing process of welding locomotive frames and rails.
Gold Car Heating & Lighting Company, New York.—Electric car heaters and Cyclone ventilators.
Griffin Wheel Company, Chicago, Ill.—F. C. S. chilled-iron car wheels.
Hale & Kilburn Company, Philadelphia, Pa.—Walkover seats in iron and pressed steel designs, steel interior finish, steel sash, steel doors, steel seats, fittings, canvas-lined rattan seat covering.
Heywood Bros. & Wakefield Company, Wakefield, Mass.—Universal car seats.
Home Rubber Company, Trenton, N. J.—Packings for high and low-pressure, tubular gaskets.
Hunt Company, C. W., West New Brighton, N. Y.—Models of coal and ash-handling machinery, bucket conveyor, valves, industrial cars and photographs of installations.
Interlocking Nut & Bolt Company, Pittsburgh, Pa.—The Clark nut lock.
Jenkins Brothers, New York.—Valves, packing, water gages and other accessories.
Johns-Manville Company, H. W., New York.—J-M fibre conduit for underground use, car fuses and boxes, Linolite system of lighting, overhead line fittings, asbestos wood and friction tapes and splicing compounds.
Jones & Laughlin Steel Company, Pittsburgh, Pa.—Steel sheet piling, wire products, cold rolled steel axles, chains, structural shapes, pulleys, cold rolled shapes, spikes, etc.
Kerite Insulated Wire & Cable Company, New York, N. Y.—Reception booth and samples of various types of signal wires and cables.
Lackawanna Steel Company, Buffalo, N. Y.—Abbott rail joint both with and without insulation, solid steel piling and other steel products.
Lobdell Car Wheel Company, Wilmington, Del.—Steel and chilled-iron car wheels, chilled-iron plungers for boiler feed pumps.
Lorain Steel Company, Johnstown, Pa.—Rails, special track work and electrically welded joints.
Lubricating Metal Company, New York, N. Y.—Babbitt metal and bearings.
McCabe, J. J., New York, N. Y.—Motor-driven lathes.
McCord Manufacturing Company, Chicago, Ill.—Universal car window fixtures.
McConway & Torley Company, Pittsburgh, Pa.—Janney radial coupler equipment.
McGuire-Cummings Manufacturing Company, Chicago, Ill.—Reception booth.
Massachusett Chemical Company, Walpole, Mass.—Rubber and liquid insulating materials.
Matthews-Davis Tool Company, St. Louis, Mo.—Davis expansion car wheel boring tools and Davis expansion tools for general machine shop work.
Matthews & Brothers, W. N., St. Louis, Mo.—Matthews money-saving specialties, Matthews fuse switch, Matthews hold-fast lamp guards, boltless guy clamps.
May & Turner Company, Atlanta, Ga.—Burroughs' railway nut lock.
Midvale Steel Company, Philadelphia, Pa.—Rolled steel and built-up wheels, axles.
Murphy Iron Works, Detroit, Mich.—Murphy automatic smokeless furnace.
Nachod Signal Company, Philadelphia, Pa.—Automatic signals for electric railways operated by miniature track and signal accessories.
National Brake Company, Buffalo, N. Y.—Models of Peacock brakes, Ackley adjustable brake, and the improved Peacock brake for steam railway car service.
National Brake & Electric Company, Milwaukee, Wis.—Interurban air-brake equipments, compressors and governors, samples of steel castings.
National Carbon Company, Cleveland, Ohio.—High-grade carbon products.
National Lead Company, New York.—Babbitt metal, anti-friction metal, bar and wire solder, bearing metal.
National Lock Washer Company, Newark, N. J.—Car curtains and fixtures, National lock washers.
National Tube Company, Pittsburgh, Pa.—Tubular poles, pipe, Shelby and Spellerized steel boiler tubes, cast and malleable fittings, valves and cocks, Kewanee specialties.
Nelson Valve Company, Philadelphia, Pa.—Hand and electrically operated valves of all types.
New York Swith & Crossing Company, Hoboken, N. J.—Anti-straddle manganese tongue switch and mate, 9-inch rail hard-center combination tongue switch, T-rail hard-center anti-straddle tongue switch, frogs and crossings.
Pantasote Company, New York.—Pantasote material for seats, curtains, etc., and Agasote headlining.
Pennsylvania Steel Company, Steelton, Pa., and Maryland Steel Company, Sparrows Point, Md.—Switch points, switches, frogs, crossings, built up Manard hard center and solid Manard construction track work.
Perfectol Company, Philadelphia, Pa.—Perfectol car cleaner.
Pittsburgh Steel Company, Pittsburgh, Pa.—Mechanical and boiler tubes, standard railway fencing, wire nails, galvanized barbed wire.
Positive Clutch & Pulley Works, Buffalo, N. Y.—Positive combined jaw and friction clutch models.
Pressed Prism Plate Glass Company, Chicago, Ill.—Special ornamental glass designs for railway cars.
Pyrene Manufacturing Company, New York, N. Y.—Pyrene fire extinguishing guns and Pyrene liquid.
Rail Joint Company, New York.—Continuous, Weber and Wolhaupter rail joints.
Railway Age Gazette, New York.—Reception both and copies of the *Railway Age Gazette*, *The Signal Engineer*, the Railway Signal Dictionary and other books.
Railway Motor Car Corporation, Philadelphia, Pa.—Reception booth with literature on self-propelled passenger cars.
Ramapo Iron Works, Hillburn, N. Y.—Automatic switch stands and manganese track work.
Roebling's Sons Company, John A., Trenton, N. J.—Insulated wire and cables, wire, wire rope and fittings.
St. Louis Steel Foundry, St. Louis, Mo.—Solid manganese steel crossings, frogs, mates.
Samson Cordage Works, Boston, Mass.—Cord.
Sangamo Electric Company, Springfield, Ill.—Indicating wattmeters and ampere hour meters, street railway meters.
Sherwin Williams Company, Cleveland, Ohio.—Passenger coach finishes, railway varnishes, insulating varnishes, rattan seat, enamel paint and varnish specialties.
The Signal Engineer, Chicago.—See the *Railway Age Gazette*.
Standard Coupler Company, New York, N. Y.—Shim slack adjuster.
Standard Leather Packing Company, Boston, Mass.—Packing.
Standard Paint Company, New York, N. Y.—Insulating varnishes, compounds and tape.
Standard Underground Cable Company, Pittsburgh, Pa.—Lead-covered and armored power cables, bare and insulated wires, Colonial copper clad wire, Davis open air and station terminals, manhole junction boxes, cable jointing materials.
Steel Tie Specialty Company, Cleveland, Ohio.—Kohlmeyer clips for fastening steel rails to steel ties.
Sterling Varnish Company, Pittsburgh, Pa.—Reception booth.
Stromberg-Carlson Telephone Manufacturing Company, Rochester, N. Y.—Despatcher's signal system, iron clad magnetos and jack boxes, loud ringing signal bells connecting poles and magneto switchboard.
Symington Company, T. H., Baltimore, Md.—Journal boxes, dust guards, ball-bearing center plates and roller side bearings.
Taylor Stoker Company, Providence, R. I.—Built-up stoker.
Templeton, Kenly & Company, Chicago, Ill.—Track and car jacks.
Tool Steel Gear & Pinion Company, Cincinnati, Ohio.—Gears and pinions.
Transportation Utilities Company, New York, N. Y.—Acme vestibule curtain and revolving shield, Acme vestibule diaphragms, Perfection sash balance and screen, National steel trap door, roofing, Flexolith composition flooring, Eclipse deck sash ratchet, Tuco curtain and rack fixtures, Resisto insulation and miscellaneous devices.
Union Switch & Signal Company, Swissvale, Pa.—In the regular booth on the pier are shown three working models of automatic block signals operated by miniature cars; a model demonstrating curve protection; full-size semaphore and light signals in operation; track transformers and relays; impendence bonds; electric train staff system and Union "Style B" electric semaphore signal. On the Columbia hotel, 1,200 ft. from the pier booth light signals are installed to demonstrate the clearness of the signals. Alongside the Aquarium, 300 ft. away, is a Union "Style B" signal in constant operation and on a large electric sign on the outside of the pier, facing north is another set of light signals.
United States Electric Signal Company, West Newton, Mass.—Block signals, recording block signals, crossing signals and spacing signals.
U. S. Metal & Manufacturing Company, New York, N. Y.—Reception booth.
U. S. Wood Preserving Company, New York, N. Y.—Wood Paving blocks.
Universal Audit Company, New York, N. Y.—Charts showing an analysis of a standard and complete commercial organization, books, etc.
Universal Safety Tread Company, Boston, Mass.—Safety treads for car steps, stations and platforms.
U. S. Light & Heating Company, Niagara Falls, N. Y.—National storage batteries.
Van Dorn Company, W. T., Chicago, Ill.—M. C. B. drawbars complete, with draft gear and anchor casting and M. C. B. couplings.
Van Dorn & Dutton Company, Cleveland, Ohio.—Railway motor gears and pinions, portable drills and reamers.
Vixen Tool Company, Philadelphia, Pa.—Vixen two-man rail plainer and Vixon files.
Watson, Stillman Company, New York, N. Y.—Rail bender, 30-ton laboratory press, 35-ton hydraulic rail bond compressor, Universal beam punch, telescopic motor lift, hydraulic jacks and turbine pump.
Western Electric Company, Chicago, Ill.—Telephone train-despatching equipment; Blue Bell battery; Rotophone; overhead railway material; Electrose third rail insulators; Crouse-Hinds headlights; Schwarze railway crossing gong; Samson cord, and conductors' punches, etc.
Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pa.—Railway motors induction motors, controllers, unit switch control circuit breakers, relays overhead line material, arresters and repair parts.
Westinghouse Lamp Company, Bloomfield, N. J.—Railway incandescent lamps.
Westinghouse Machine Company, East Pittsburgh, Pa.—Several turbines of the impulse re-entry type.

Westinghouse Traction Brake Company, Wilmerding, Pa.—Electro-pneumatic brake, A. M. M. automatic brakes, S. M. E. brake equipment, electric compressor governors.
Wharton, Jr., & Company, Wm., Philadelphia, Pa.—Switches, mates and frogs of manganese steel construction new and used, spring boxes, models, blue prints and pictures of the company's work.
Wheel Truing Brake Shoe Company, Detroit, Mich.—Abrasive brake shoes.
Whipple Supply Company, New York, N. Y.—Anti-climbers, gears and pinions; Universal safety treads.
Wilson Remover Company, New York, N. Y.—Paint and varnish removers.

RAILWAY SIGNAL ASSOCIATION.

Committee No. 1 of the Railway Signal Association (A. H. Rudd, chairman), in its report presented at the annual meeting at Colorado Springs, October 11, recommended a revised scheme of signal aspects; or, rather, two schemes, one for roads desiring to get along as cheaply as possible and the other a complete scheme of indications. The conclusions presented by the committee this year are based on its consideration of reports on this subject made at previous meetings, during the past five years, and on the recommendations of the Committee on Transportation of the American Railway Association and considered at the meeting of the A. R. A. last April (though not adopted by that association.) It will be recalled that the A. R. A. committee, acting on requests of the American Railway Engineering and the Railway Signal associations formulated a declaration as to requisites, holding that the fundamental and essential signal indications are (1) stop; (2) proceed with caution; (3) proceed; and that "proceed with caution" may be used with the same aspect to govern any cautionary movement; for example, as an ordinary distant signal or as a permissive indication at the home signal. Two additional indications were approved; namely: (4) proceed at low speed and (5) proceed at medium speed.

To provide a system corresponding to these declarations of the A. R. A. committee, the R. S. A. committee makes the following recommendations.

Simple Aspects.

1. Stop

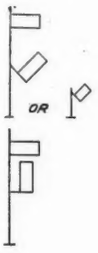
2. Proceed with caution

3. Proceed

"Having in view, and not desiring to depart from, the established practice of indicating diverging routes and incidentally low and medium speeds, your committee recommends that the medium and low-speed indications be given by an additional arm or arms. The simplest method (although incapable of expansion to provide additional aspects or even combinations of the fundamentals and supplementaries) is to use a second arm for both of these indications. The [A. R. A.] committee on Transportation rules that the fundamental, "Proceed with caution," may be used to govern any cautionary movement. Therefore, for those roads which desire to operate under this plan and deem the five indications entirely sufficient, two additional aspects are necessary.

4. Proceed at low speed

5. Proceed at medium speed



"At interlocking plants which are also block stations it may be desirable, even on such roads, to give passenger trains caution signals for diverging movements but not for entering occupied block stations; this would, with the system outlined above, require a separate signal beyond the interlocked switches. It may frequently also be desirable to display the fundamental, "Proceed with caution," on the medium-speed route, and to logically and consistently apply the fundamental aspects for "Proceed with caution" and "Proceed" to those signals indicating medium-speed and low-speed, the 45 deg. position should be used for caution and the vertical for proceed.

"Again, as the Committee on Transportation merely makes optional the combination of various indications under caution, and as several roads have found it desirable to differentiate between such indications, the committee recommends for such roads a low arm as a low-speed arm and a middle arm where the indication of medium speed is desired.

"The Committee on Transportation states that 'stop signals operated under automatic block system rules should be designated by some distinctive mark to be determined by each road in accordance with local requirements.' The instructions to this committee are to design a uniform system, which end is defeated if each road uses a different method of designating the automatic home signal. Therefore, the committee recommends as follows:

"Conclusion No. 1.

"On roads desiring to operate with the three fundamentals and the two additional indications without expansion or combination of these indications the following aspects may be used:

Scheme No. 1.
Fundamentals.

1. Stop

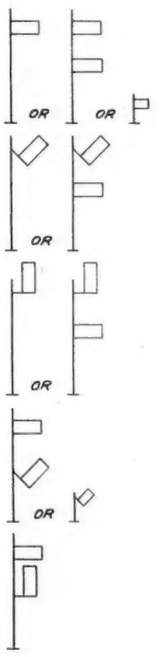
2. Proceed with caution

3. Proceed

Supplementary Indications.

4. Proceed at low speed

5. Proceed at medium speed



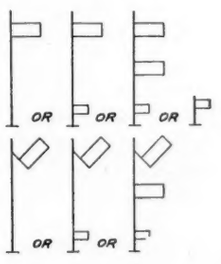
"Conclusion No. 2.

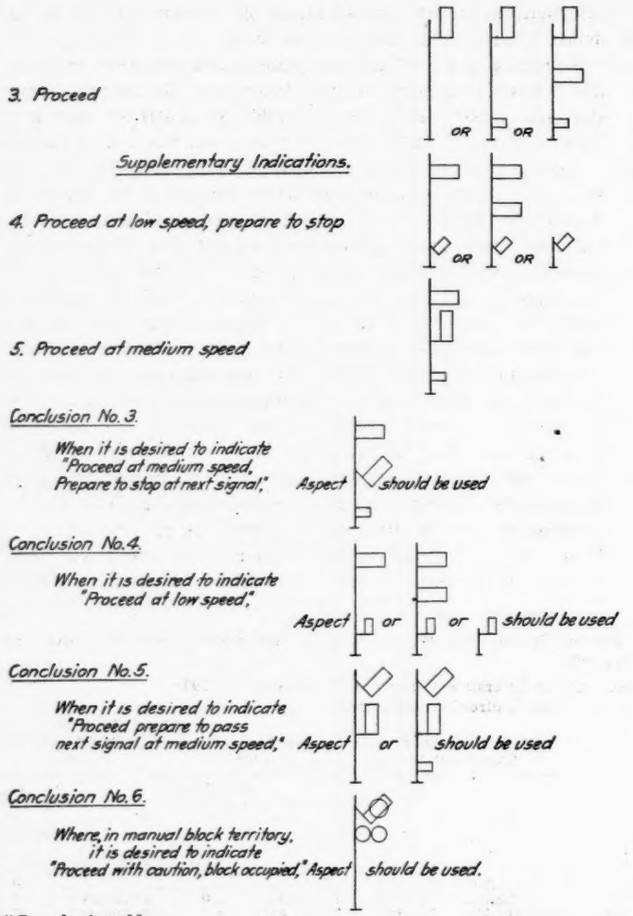
"On those roads desiring combinations of the fundamentals and supplementary indications and different aspects for the various caution indications, permissible under the ruling of the committee on transportation, the following aspects should be used:

Scheme No. 2.
Fundamentals.

1. Stop

2. Proceed, prepare to stop at next signal



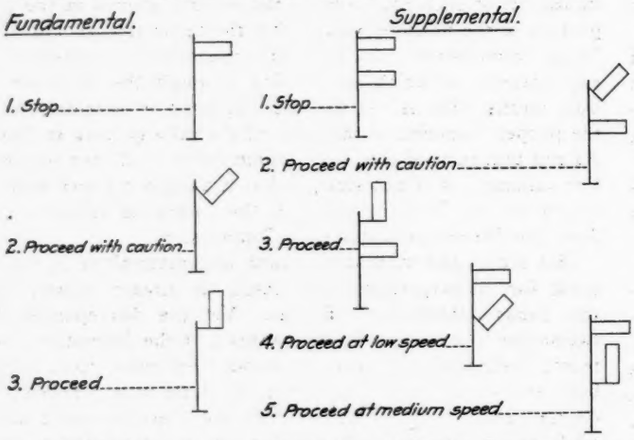

3. Proceed
OR
OR
Supplementary Indications.
4. Proceed at low speed, prepare to stop
OR
OR
5. Proceed at medium speed
Conclusion No. 3.
When it is desired to indicate "Proceed at medium speed, Prepare to stop at next signal," Aspect should be used
Conclusion No. 4.
When it is desired to indicate "Proceed at low speed," Aspect or or should be used
Conclusion No. 5.
When it is desired to indicate "Proceed prepare to pass next signal at medium speed," Aspect or should be used
Conclusion No. 6.
Where, in manual block territory, it is desired to indicate "Proceed with caution, block occupied," Aspect should be used.

"*Conclusion No. 7.*

"That the arms of automatic signals be pointed and the arms of other signals giving the stop indication have square ends; that, on roads using Scheme No. 1, a number plate be added on the automatic signal and, on roads using Scheme No. 2, a red marker light below and to the left of the active light be provided."

MINORITY REPORT.

Four members of the association disapproved the more comprehensive scheme of the majority of the committee and presented in a minority report the following indications recommending them for adoption as all-sufficient.



The objections of the minority to the other aspects recommended by the majority are set forth under ten heads. These are substantially the same as those presented by Mr. Clausen in a paper read at Montreal, which was published in the *Railway Age Gazette* of March 30 last. In addition the minority say that a number of serious and fatal accidents in the past few years show the correctness of their position; but none of these accidents are named. The report is signed by W. B. Scott, Harriman Lines; T. S. Stevens, Santa Fe; J. C. Young, Union Pacific; L. R. Clausen, C. M. & St. Paul.

ACTION OF THE CONVENTION.

The meeting on Wednesday at noon adopted the majority report by a vote of 40 to 22, and ordered it to be sent to letter ballot. This was after a very lively and interesting discussion which lasted three hours.

CAPITALIZATION AND DIVIDENDS OF THE RAILWAYS OF TEXAS.*

In this study, prepared by request, it has been the purpose to ascertain the capitalization of the railways of Texas, their dividends, and the proportion of non-dividend-paying stock, and to make a comparison in these respects with the railways of the United States as a whole, and with those of other sections of the United States.

The study is for the fiscal year ending June 30, 1909, the latest year for which requisite statistics are available. The data has been obtained from the annual report of the Railroad Commission of Texas and the statistical report of the Interstate Commerce Commission.

From the table which is printed hereafter with explanatory comment, it will be perceived that the capitalization of the Texas roads per mile is $32,070, or less than half the average for the whole United States, which is $73,829. It is of interest to compare this further with Interstate Commerce Commission Group V, which has the lowest capitalization per mile,† $46,364, and with Group II, which has the highest capitalization per mile, $147,300. It should be noted that these amounts represent the *gross* capitalization per mile, in which are included duplications due to intercorporate ownership. The *net* capitalization of the railways of the United States as a whole, that is, the gross capitalization less deductions due to the ownership of the securities of one railway by another, and less deduction of securities covering property other than railway property, is $59,259 per mile. The net capitalization of the railways in each group or in each state is not ascertainable. It has therefore been necessary in this comparison to use the figure of gross capitalization. While it is likely that the *net* capitalization of the railways of Texas, if it were ascertainable, would not show the same relative reduction from the gross as that of the United States as a whole, it is significant that the *gross* capitalization per mile of the Texas lines is 45 per cent. less than the *net* capitalization per mile of the railways of the country as a whole.

On the same basis of comparison of gross figures, the table shows that the amount of stock per mile is $9,839 in Texas, $32,450 for the United States as a whole, $15,495 in the lowest group (Group V), and $65,456 in the highest group (Group II). The amount of bonds per mile is $22,231 for Texas, $41,380 for the United States, $30,869 for Group V, and $81,844 for Group II.

The average rate of dividend on railway stock is lower in Texas than elsewhere. The average dividend paid in 1909 on the aggregate of dividend-paying and non-dividend-paying stock was less than three-tenths of one per cent. On the similar aggregate of stock for the entire United States, the dividend rate averaged 4.2 per cent. In the lowest group (Group IV) this dividend rate averaged 1.6 per cent., and in the highest group (Group VII) 6.8 per cent. That is, the average dividend rate on the total railway stock of the United States was more than seventeen times as high as that of Texas; in Group IV it was over six times as high, and in Group VII twenty-eight times as high.

*From Bulletin 18 of the Bureau of Railway Economics, Washington, D. C.

†In the comparisons of Texas with the various groups, Group IX is omitted from consideration, because the state of Texas comprises the major part of Group IX and largely determines its character.

The low dividend rate on Texas stock would lead one to expect that the proportion of railway stock paying no dividends would be higher in Texas than in the country as a whole. This proves to be the fact to an extraordinary degree. The ratio that the stock of non-dividend-paying railways bore to the stock of all railways was 95.8 per cent. in Texas, in the United States as a whole, 29 per cent., in the group with the highest ratio (Group IV) 58.7 per cent., and in the group with the lowest ratio (Group I) 6.7 per cent. It should be noted that, for reasons given later in the discussion of the table, this comparison of the proportion of stock not paying dividends is based on the *total stock* of dividend paying roads compared with the *total stock* of non-dividend-paying roads, and not on the *issues of stock* paying dividends compared with the *issues of stock* that paid no dividends.

Certain discrepancies exist between the data published by the Texas commission and that published by the Interstate Commerce Commission. If the higher figures given by the Interstate Commerce Commission had been used as the basis for the foregoing comparison, instead of the lower figures of the Texas commission, the amounts entering into the comparison would have been but little changed, and the relation between the status in Texas and that in other parts of the country, not at all. Therefore it has not seemed necessary to present these discrepancies in the summary.

The amount given in the table as representing the stock of all American railways on which no dividend was declared in 1909 is $2,227,650,417, or 29 per cent. of the total stock outstanding. This amount is ascertained by adding together the total outstanding stocks of all railways that declared no dividends in 1909. The corresponding item in the Interstate Commerce Commission's statistical report for 1909, page 57, is $2,766,104,427, and the corresponding percentage 35.99 per cent. The discrepancy between these two sets of figures is due to the fact that the Interstate Commerce Commission added together all *issues* of stock on which no dividends were paid, instead of the total stocks of all railways declaring no dividends. Thus the Interstate Commerce Commission's total includes a considerable amount of common stock of railways that paid a dividend on their preferred, but not on their common issues. It has proved impossible to secure from the Interstate Commerce Commission or from its reports a statement of non-dividend-paying stocks in each group corresponding to the amount reported by the commission for the United States, which has made it necessary to make up the item in the way described. For comparative purposes this data is as valuable as that of the Interstate Commerce Commission, for it gives information of the capitalization of railways paying no dividends whatever on their capital stock.

Switching and terminal companies have not been included in the statistical reports of the Interstate Commerce Commission since 1907. In order to make the statistics comparable, these companies have been omitted from the Texas figures.

Certain differences exist between the returns of the Interstate Commerce Commission when computed for the state of Texas and those of the Texas commission. These differences fall into three main groups—differences due to variations in classification, differences arising out of the failure of roads to file reports, and differences in methods used in apportioning capital to those portions of interstate railways that lie within the state of Texas. Among the differences due to varying classification may be mentioned the inclusion of notes, debentures, pledged bonds, and miscellaneous obligations with funded debt, and the inclusion of branches and spurs with miles of line. For all the roads failing to file operating statements with the Interstate Commerce Commission, mileage figures are reported by that commission, but nothing more. Differences due to methods of capital assignment are as follows: Where a railway lies in more than one group, the Interstate Commerce Commission usually apportions the capitalization of such road among the several groups in the proportion of the mileage lying within the respective groups. The Texas commission, however, apportions the capitalization of each railway entering or passing through the state on its own merits; that is, on the basis of what it considers to be the proper valuation of that part of the railway lying in Texas. As the tendency of the Texas commission is always toward a low valuation, it is not strange that it assigns a lower capitalization to the Texas portion of the interstate railways than does the Interstate Commerce Commission.

This study, the method of which was determined in the request for its preparation, was based, as already shown, upon the Texas commission's figures. Yet the discrepancies between the Texas commission figures and the Interstate Commerce Commission figures, the reasons for which have already been explained, are not sufficient to vitiate in any respect the conclusions of this study. It does not therefore seem worth while to present in detailed tables the statistical variations in the two reports.

CAPITALIZATION AND DIVIDEND RETURNS OF THE RAILWAYS OF TEXAS, OF THE UNITED STATES AS A WHOLE, AND OF THE SEVERAL GROUPS: YEAR ENDING JUNE 30, 1909.

(United States and Group figures from Statistical Report of the Interstate Commerce Commission for 1909; Texas figures from 1909 report of the Texas Railroad Commission).*a*

Group.	Mileage Owned.	Stock. Amount.	Stock. Per Mile.	Bonds. Amount.	Bonds. Per Mile.	Total Railway Capitalization. Amount.	Total Railway Capitalization. Per Mile.	Dividends Declared in 1909. Amount.	Dividends Declared in 1909. Avg. Rate Based on Total Ry. Stock of Group.	Total Stock of Railways which Paid No Dividends in 1909. Amount.	Total Stock of Railways which Paid No Dividends in 1909. Per cent. of Total Stock of All Railways of Group.
Texas	13,079.41	$128,686,677	$9,839	$290,768,626*b*	$22,231	$419,455,303*b*	$32,070	$307,750	0.24	$123,337,265	95.8
United States..	236,868.53	7,686,278,545	32,450	9,801,590,390	41,380	17,487,868,935	73,829	321,071,626	4.2	2,227,650,417*c*	29.0
Group I.....	7,950.14	324,754,673	40,849	445,333,910	56,016	770,088,583	96,865	19,575,320	6.0	21,739,094	6.7
" II....	23,236.94	1,520,991,520	65,456	1,901,806,200	81,844	3,422,797,720	147,300	71,484,423	4.7	420,996,237	27.7
" III...	24,880.48	997,639,248	40,097	1,310,905,552	52,688	2,308,544,800	92,785	35,153,385	3.5	368,252,631	36.9
" IV...	14,880.97	396,395,222	26,638	553,027,315	37,163	949,422,537	63,801	6,471,801	1.6	232,639,792	58.7
" V....	28,377.26	439,709,547	15,495	875,969,066	30,869	1,315,678,613	46,364	9,251,150	2.1	253,874,556	57.7
" VI...	50,190.75	1,398,398,631	27,862	1,594,510,949	31,769	2,992,909,580	59,631	67,187,584	4.8	241,928,577	17.3
" VII..	13,638.76	407,959,786	29,912	426,517,621	31,272	834,477,407	61,184	27,793,005	6.8	28,166,800	6.9
" VIII.	32,450.48	883,554,572	27,228	1,297,095,370	39,971	2,180,649,942	67,199	25,029,670	2.8	232,382,171	26.3
" IX...	18,162.90	318,121,840	17,515	448,028,456	24,667	766,150,296	42,182	4,681,471	1.5	211,028,138	66.3
" X....	23,099.85	998,753,506	43,236	948,395,951	41,056	1,947,149,457	84,293	54,443,817	5.5	216,642,421	21.7

a The figures exclude switching and terminal companies.
b Includes equipment trust obligations amounting to $7,956,426.
c Includes $25,666,134 held in treasury, pledged as collateral security, held in sinking and other funds, etc. Amounts assigned to groups are as follows:

Group I.....	$29,749	Group III....	$9,152,575	Group V.....	$744,720	Group VII.....	$1,500	Group IX.....	$155,675
" II.....	8,327,444	" IV,....	1,948,900	" VI.....	603,285	" VIII....	2,486,386	" X.....	2,215,900

Tenders have been invited by the coal exchanges in behalf of the Egyptian State Railways for 40,000 tons of American coal. This is intended as an experiment to determine whether American coal is a suitable substitute for the Welsh coal now used.

General News Section.

The Texas & Pacific is equipping all its passenger cars with steel tired wheels. It is probable that this company will also convert the greater part of its coal burning locomotives to oil burning.

President Taft, in addressing the people of Bellingham, Wash., on Monday of this week, said that unless there should be unexpected delays, the Panama Canal could and probably would be opened for traffic July 1, 1913.

The educational department of the Railroad Y. M. C. A., at St. Louis, had last year a course of instruction in freight rates, which was so successful and attracted so much favorable comment that the course is being repeated this year.

A press despatch from San Francisco says that on Thursday of last week messages were exchanged by wireless telegraph direct between that city and a station in Japan—on Hokushu Island in the northern part of the Japanese archipeligo—a distance of about six thousand miles.

On Sunday last 800 men from the Renovo car shops of the Pennsylvania Railroad went to Austin, Pa., and assisted in clearing up the great masses of rubbish deposited by the recent flood in that town, the railway company carrying them in a special train. The men carried their own food. They propose to contribute one dollar each to the fund for the relief of the people of Austin.

Postmaster General Hitchcock, in his estimates for the next fiscal year, which were given out last week, includes a proposal to appropriate $50,000 for the preliminary expenses of establishing a parcels post on rural mail routes and a similar amount for an experimental parcels-post test in cities. A further sum of $50,000 is asked for to provide for an investigation as to the propriety of establishing a general parcels-post.

The school for the education of young men in railway work, which is maintained by the Chicago Great Western at Oelwein, was noticed in the *Railway Age Gazette,* October 6, page 681. In connection with this enterprise, General Manager Slifer not only has given a general notice that young men will be encouraged to apply to the school, but has issued a circular to station agents, asking them to "get next to" promising young men in their several towns, and when they find those who are capable and willing, to submit their names to the division superintendent. The circular to agents says: There are undoubtedly a number of young men who might be interested in railroading, if the matter were brought to their attention in the proper light and by a person in whom they have confidence, men of this character, who live along the line and have family ties in the vicinity, and whose circle of friends reside in the territory adjoining the line, will in the long run make more suitable employees than many of those who have not such ties. It is desired that each agent study the young men in his particular locality and pick out the most promising ones.

General Manager S. C. Long of the Pennsylvania Railroad last week awarded the usual annual prizes to supervisors and assistant supervisors, based on the result of the monthly inspections. In the final inspection Mr. Long had with him a party of 200 operating officers, and the prizes were awarded on the arrival of this party at Pittsburgh. The total amount of the prizes was $5,400. The first prize, amounting to $800 for the supervisor and $400 for the assistant, was given to C. M. Wisman, supervisor, and William F. Miller, assistant supervisor, who have charge of the track between Tullytown, Pa., and Deans, N. J., 25 miles. Four premiums of $800 ($600 for the supervisor and $200 for the assistant), for the best line and surface on a main line superintendent's division between New York and Pittsburgh and Philadelphia and Washington were awarded to John Schimmel, Jr., and H. A. Gass; D. T. Easby and R. S. Stewart; George Ehrenfeld and G. W. Curtiss; George Goldie, Jr., and N. D. Vernon. A special improvement premium of $1,000 ($700 to the supervisor and $300 to the assistant) for the greatest improvement made in the line and in the surface of a supervisor's section of track was awarded to F. W. L. Schneider and F. M. Robb.

Strikes.

No important change has taken place in the strike situation on the Harriman Lines and the Illinois Central. Officers of the railways report that the strikers are quieter, that passenger and freight traffic is being handled without interruption, and that they are having no difficulty in securing men to take the places of the strikers. At a conference which took place at Jackson, Miss., on October 9, and which was arranged for by Governor Noel of that state, President C. H. Markham of the Illinois Central discussed the situation with Senator Williams of Mississippi, Mayor Crowder of Jackson and the union leaders, but no agreement was reached. Governor Noel announced that he would ask the governors of other states affected by the strike on the Illinois Central to meet in joint conference with representatives of the road and striking employees. Strikers in the south are trying to get business men to use their influence in bringing about a settlement. Injunctions were secured by the Southern Pacific on October 5, at New Orleans, and at Houston, restraining the strikers and others from interfering with the affairs of the road.

Acts of violence on the Harriman Lines were reported at Portland, Oregon., and on October 6 a mob of strikers attacked strikebreakers brought to work in the Southern Pacific shops at Algiers, La.

Boilermakers and machinists on the Grand Trunk Pacific from the lakes to the Rocky mountains went on a strike on October 9. They demand a nine-hour day and 45½ cents an hour.

Work has been resumed in the shops of the Missouri, Kansas & Texas at Sedalia, Mo., on a reduced scale.

Elimination of Grade Crossings.

Following the appropriation of $350,000, which was made by the legislature of 1911 for the elimination of grade crossings in New York state outside of Greater New York, the New York Public Service Commission, Second district, has selected 21 cases which provide for the elimination of 30 crossings, considered most dangerous. The estimate of the cost of this work is $1,200,000, of which the state will pay one-quarter, the municipalities one-quarter, and the railways one-half. The crossings proposed to be eliminated are: On the New York Central & Hudson River, at Pearl and Van Woert streets, in Albany; at South William street, Kemp street, Renwick street and South Water streets in Newburgh; at Front street in Corning; at West Somerset avenue in the town of Newfane; at Bolts crossing in Reading, and at Aldrich road crossings in the towns of Phelps and Junius, in Ontario and Seneca counties. On the Erie Railroad, at First and Columbia streets in Corning; at two crossings in Mt. Hope, known as Caldwell crossing and the crossing of a road leading to Bloomingburgh; at Nyack turnpike crossing in Clarkstown, and at Main street crossing in Tusten. On the Long Island Railroad, at the South Country road and East Tiana road crossings, and Goodales crossing in Southampton. On the New York, Ontario & Western, at Otters crossing in Hamptonburgh; at Denniston road crossing in New Windsor; at Railroad street in Stockbridge, and at Munn's crossing in Stockbridge. On the Delaware, Lackawanna & Western, at Pleasant street crossing in Utica; at Robinson street crossing in Binghamton, and at three crossings in Lafayette. On the Delaware & Hudson, at the crossing at Slingerland station. On the Boston & Maine, at Middleburgh street crossing in Troy. In addition there are pending in the office of the commission, 20 petitions for the elimination of crossings. This work cannot be done, because the commission has no authority to make orders eliminating crossings without having an appropriation which will cover the state's proportion of the cost. The estimated cost of eliminating the twenty crossings is approximately $1,600,000, of which the state's proportion would be $400,000. The last report of the commission shows there are in the state outside of Greater New York, 8,632 places where public highways cross steam railway tracks at grade, of which 6,563 are absolutely unprotected, and 2,069 are protected by gates, flagmen or electric bells. In Greater New York there are reported 433 crossings at grade, of which 282 are protected and 151 unprotected, making a total of 9,065 highway crossings at grade in the entire state.

A Heart-Rending Appeal.

The following is a translation of a circular anonymously distributed last May in Changsha, China, while the negotiations for the railway loan were under way. The translation is literal, preserving the astonishing grammar and metaphor of the Chinese original. The circular was headed: "To Inform Our Countrymen of the Distressing Railway."

"Also; The death of our people of our whole Hunan province is to hand. The old and the young of our whole providence should hasten to devise a plan to save our lives. The plan is to unite all our Hunan people to fight desperately against the traitorous thief who sold our Hunan Railway to the foreigners. We remember that ten years ago, the Hunan people lost their railway. It was sold to the United States by Zian Sien Way and it was through our 'lose our lives and die' Hunan people that the railway was claimed back. The amount of money spent for the reclaiming of the railway was over seven million taels [$4,200,000], and this whole amount was from the poor and hard-working Hunan people, who subscribed this amount of money simply on the question of life and death.

"We beg to quote below the distresses resulting from the control of railways in China by the foreigners.

"Our Yunan railway is constructed by the Frenchmen. At the places along the railway, forts are built and are manned with foreign soldiers. They capture the Yunan people, force them to do hard labor and exert every barbarous act, which to describe it adequately would mean gnashing of everybody's teeth.

"Our Manchurian railways are constructed by the Russians. They forced us to give our Manchurian land, burnt the people's houses and robbed their money. One day, Russian soldiers happened to be out and they threw a number of living men into a lake. Is it not pitiful to think of this?

"Now, do the traitorous railway thief take any care of people's life and death? We, Hunan people, knowing these above-mentioned distresses are sure that railways built by the foreigners are not good. Every one of us is therefore willing to take out his money, to claim back the railway and to build it ourselves. The money we have had from the shares cannot be said as little, and we are thinking in every way to get more money. Thus you can readily see that the step our Hunan people take in the matter of selling the shares is exhaustive. We do this for we know that when our railway is lost, not only will our land be lost, but our people's lives and property will also be in the tiger's mouth. Every one has kept this in mind, so the people of the whole Hunan province can get aproximately an amount of $5,000,000 [Mexican; about $2,500,000 gold] yearly as the money for the purchase of railways, and in five or six years' time the Hunan Railway of about 1,500 miles could be built.

"The traitorous railway thief, only thinking of the 5 per cent. commission do not care of the future life and death of the Hunan people. He secretly proposes an agreement for a loan from the German, English, French and American people, without letting the Hunan people know of it.

"Our railway was sanctioned by the late Emperor Kwany Hsu to be built by the people. In the spring of last year, four representatives were chosen by the Provincial Assembly to proceed to Peking and a petition written with blood was also forwarded to the Board of Posts and Communications. The request was granted and the railway was again sanction by the Board of Posts and Communications that the Hunan Railway was to be built by the Hunan people. Thus the railway has been sanctioned by the late Emperor and the present. Cannot this be considered an 'iron' [a sound] case?

"Today the change is again made by that Zian Sien Way and we heard that the agreement for a loan from four countries has already been signed with the likin [tax] as pledge, in spite of the sanctions given by the late Emperor. This is the same as to present the railway to the foreigners.

"We, Hunan people, have spent ten years' time and used several million dollars, and the railway which can be completed in a fixed day is to fall into the foreigner's hands. Henceforth, everybody's life and family will be in danger. If we Hunan people do not unite into one and fight with all our effort against this, the day would not be far when we will see swords hanging just over our neck. But we have our ways. Firstly, to ask everyone to take out more money to build the railway at once; one foot built is one foot of the railway; ten feet built is ten feet of the railway. Secondly, we want our governor to send petition to the Waiwupu for immediate cancellation of the Hunan Loan Agreement. When a piece of meat is in the traitorous railway thief's mouth, it is hard to take it out. We can only have one idea; to build the railway ourselves. If he loans the foreigners' money, we do not care of him, nor do we wan him to care of us. If we build our railway, who will press us down by force? We, the people, being in every respect having no hope of life, ought to have a desperate fight. Let the students leave the school, merchants stop their business, tax be not paid by the whole Hunan people, and see what he will do to our Hunan people."

Railway Signal Association.

The sixteenth annual meeting of this association was opened at the Antlers, Colorado Springs, on Tuesday morning of this week, with President C. E. Denney (L. S. & M. S.) in the chair. Mr. Denney, in his address, commended especially the work of committees Nos. 10 and No. 12. He also emphasized the value of a good manual of standards. He proposed that the association co-operate even more fully than in the past with the Electric Railway Association. The Board of Direction has recommended the appointment of a special committee of four signal engineers to report on technical signaling features to the Committee on the Relations of Railway Operation to Legislation, of which F. O. Melcher (C. R. I. & P.) is chairman.

The secretary-treasurer reported the membership of the association on September 30 as 1,378, an increase during the past year of 141. The assets of the association exceed the liabilities by $4,847, a large increase over the preceding year.

The subject of most general interest discussed at this meeting was that of signal aspects. This was reported on by Committee No. 1, and this report, with the action of the association on it, will be found in another column.

An account of the rest of the proceedings of the meeting must be deferred to a future issue.

American Railway Bridge and Building Association.

The twenty-first annual convention of the American Railway Bridge and Building Association will be held at the Planters Hotel, St. Louis, Mo., October 17-19. The reports of 11 standing committees will be presented for discussion. The convention will adjourn on October 19 at noon, and the afternoon will be devoted to short trips about the city. The Committee on Arrangements has planned several side trips, which will be announced at the convention. The Bridge & Building Supply Men's Association will meet at the same place in connection with this convention, and there will be an exhibit of the various types of equipment of interest to members of the association. Besides the reports of committees on the morning of October 17, there will be an address by the mayor of St. Louis, an address by the president of the association, and the appointment of committees. On the afternoon of October 17 there will be committee reports and a discussion of last year's commitee reports. On October 18 there will be committee reports and discussions on the same. On the morning of October 19 there will be committee reports, the election of officers, and the selection of location for the 1912 convention, followed by adjournment.

Car Service Officers.

The Central & Western Association of Car Service Officers will hold its semi-annual meeting at Indianapolis, Ind., Thursday, October 19. The members will remain over until Friday, and take a trip around the Indianapolis terminals, the Belt Railway and the stock yards.

MEETINGS AND CONVENTIONS.

The following list gives names of secretaries, dates of next or regular meetings, and places of meeting.

Air Brake Association.—F. M. Nellis, 53 State St., Boston, Mass.

American Association of Demurrage Officers.—A. G. Thomason, Scranton, Pa.

American Association of General Passenger and Ticket Agents.—C. M. Burt, Boston, Mass.

American Association of Freight Agents.—R. O. Wells, East St. Louis, Ill.

American Association of Railroad Superintendents.—O. G. Fetter, Carew building, Cincinnati, Ohio; 3d Friday of March and September.

American Electric Railway Association.—H. C. Donecker, 29 W. 39th St., New York.
American Railway Association.—W. F. Allen, 75 Church St., New York; November 15, Chicago.
American Railway Bridge and Building Association.—C. A. Lichty, C. & N. W., Chicago; Oct. 17-19, 1911, St. Louis, Mo.
American Railway Engineering Association.—E. H. Fritch, Monadnock Block, Chicago; annual convention, March 19-21, 1912, Chicago.
American Railway Master Mechanics' Association.—J. W. Taylor, Old Colony building, Chicago.
American Railway Tool Foremen's Association.—O. T. Harroun, Bloomington, Ill.
American Society for Testing Materials.—Prof. E. Marburg, University of Pennsylvania, Philadelphia, Pa.
American Society of Civil Engineers.—C. W. Hunt, 220 W. 57th St., New York; 1st and 3d Wed., except June and August, New York.
American Society of Engineering Contractors.—D. J. Haner, 13 Park Row, New York; 3d Tuesday of each month, New York.
American Society of Mechanical Engineers.—Calvin W. Rice, 29 W. 39th St., New York.
Association of American Railway Accounting Officers.—C. G. Phillips, 143 Dearborn St., Chicago; annual, June 26, 1912, Quebec, Que.
Association of Railway Claim Agents.—J. R. McSherry, C. & E. I., Chicago; annual convention, May 22, 1912, Los Angeles, Cal.
Association of Railway Electrical Engineers.—Jos. A. Andreucetti, C. & N. W. Ry., Chicago; annual, November 6-10, Chicago.
Association of Railway Telegraph Superintendents.—P. W. Drew, 135 Adams St., Chicago; annual, June 24, 1912, New York.
Association of Transportation and Car Accounting Officers.—G. P. Conard, 75 Church St., New York; December 12-13, Louisville, Ky.
Canadian Railway Club.—James Powell, Grand Trunk Ry., Montreal, Que.; 2d Tuesday in month, except June, July and Aug., Montreal.
Canadian Society of Civil Engineers.—Clement H. McLeod, 413 Dorchester St., Montreal, Que.; Thursdays, Montreal.
Car Foremen's Association of Chicago.—Aaron Kline, 841 North 50th Court, Chicago; 2d Monday in month, Chicago.
Central Railway Club.—H. D. Vought, 95 Liberty St., New York; 2d Thurs. in Jan. and 2d Fri. in March, May, Sept., Nov., Buffalo, N. Y.
Civil Engineers' Society of St. Paul.—D. F. Jurgensen, 116 Winter St., St. Paul, Minn.; 2d Monday, except June, July and Aug., St. Paul.
Engineers' Society of Pennsylvania.—E. R. Dasher, Box 704, Harrisburg, Pa.; 1st Monday after 2d Saturday, Harrisburg, Pa.
Engineers' Society of Western Pennsylvania.—E. K. Hiles, 803 Fulton building, Pittsburgh; 1st and 3d Tuesday, Pittsburgh, Pa.
Freight Claim Association.—Warren P. Taylor, Richmond, Va.; annual Buffalo, N. Y.
General Superintendents' Association of Chicago.—E. S. Koller, 226 W. Adams St., Chicago; Wed. preceding 3d Thurs., Chicago.
International Railway Congress.—Executive Committee, rue de Louvain, 11 Brussels; 1915, Berlin.
International Railway Fuel Association.—D. B. Sebastian, La Salle St. Station, Chicago.
International Railway General Foremen's Association.—L. H. Bryan, D. & I. R. Ry., Two Harbors, Minn.
International Railroad Master Blacksmiths' Association.—A. L. Woodworth, Lima, Ohio.
Iowa Railway Club.—W. B. Harrison, Union Station, Des Moines, Ia.; 2d Friday in month, except July and August, Des Moines.
Master Boiler Makers' Association.—Harry D. Vought, 95 Liberty St., New York.
Master Car Builders' Association.—J. W. Taylor, Old Colony building, Chicago.
Master Car and Locomotive Painters' Association, of United States and Canada.—A. P. Dane, B. & M., Reading, Mass.
New England Railroad Club.—G. H. Frazier, 10 Oliver St., Boston, Mass.; 2d Tuesday in month, except June, July, Aug. and Sept., Boston.
New York Railroad Club.—H. D. Vought, 95 Liberty St., New York; 3d Friday in month, except June, July and August, New York.
Northern Railway Club.—C. L. Kennedy, C., M. & St. P., Duluth, Minn; 4th Saturday, Duluth.
Omaha Railway Club.—H. H. Maulick, Barker Block, Omaha, Neb.; second Wednesday.
Railroad Club of Kansas City.—C. Manlove, 1008 Walnut St., Kansas City, Mo.; 3d Friday in month, Kansas City.
Railway Club of Pittsburgh.—C. W. Alleman, P. & L. E., Pittsburgh, Pa.; 4th Friday in month, except June, July and August, Pittsburgh.
Railway Industrial Association.—G. L. Stewart, St. L. S. W. Ry., St. Louis, Mo.; annual, May 12, 1912, Kansas City, Mo.
Railway Signal Association.—C. C. Rosenberg, Bethlehem, Pa.
Railway Storekeepers' Association.—J. P. Murphy, Box C, Collinwood, Ohio.
Richmond Railroad Club.—F. O. Robinson, Richmond, Va.; 2d Monday, except June, July and August.
Roadmasters' and Maintenance of Way Association.—L. C. Ryan, C. & N. W., Sterling; Sept. 10, 1912, Buffalo, N. Y.
St. Louis Railway Club.—B. W. Frauenthal, Union Station, St. Louis, Mo.; 2d Friday in month, except June, July and Aug., St. Louis.
Society of Railway Financial Officers.—C. Nyquist, La Salle St. Station, Chicago.
Southern Association of Car Service Officers.—E. W. Sandwich, A. & W. P. Ry., Montgomery, Ala.; annual, October 20, Atlanta, Ga.
Southern & Southwestern Railway Club.—A. J. Merrill, Grant bldg., Atlanta, Ga.; 3d Thurs., Jan., March, May, July, Sept., Nov., Atlanta.
Toledo Transportation Club.—J. G. Macomber, Woolson Spice Co., Toledo, Ohio; 1st Saturday, Toledo.
Traffic Club of Chicago.—Guy S. McCabe, La Salle Hotel, Chicago; meetings monthly, Chicago.
Traffic Club of New York.—C. A. Swope, 290 Broadway, New York; last Tuesday in month, except June, July and August, New York.
Traffic Club of Pittsburgh.—D. L. Wells, Erie, Pittsburgh, Pa.; meetings monthly, Pittsburgh.
Train Despatchers' Association of America.—J. F. Mackie, 7042 Stewart Ave., Chicago; annual, June 18, 1912, Louisville, Ky.
Transportation Club of Buffalo.—J. M. Sells, Buffalo; first Saturday after first Wednesday.
Transportation Club of Detroit.—W. R. Hurley, L. S. & M. S., Detroit, Mich.; meetings monthly.
Traveling Engineers' Association.—W. O. Thompson, N. Y. C. & H. R., East Buffalo, N. Y.
Western Canada Railway Club.—W. H. Rosevear, P. O. Box 1707, Winnipeg, Man.; 2d Monday, except June, July and August, Winnipeg.
Western Railway Club.—J. W. Taylor, Old Colony building, Chicago; 3d Tuesday of each month, except June, July and August.
Western Society of Engineers.—J. H. Warder, 1735 Monadnock Block, Chicago; 1st Wednesday in month except July and August, Chicago.
Wood Preservers' Association.—F. J. Angier, B. & O., Baltimore, Md.; annual, January 16-18, Chicago.

Traffic News.

The Judson Freight Forwarding Company, with offices at Chicago, New York, Boston and St. Louis, has been appointed joint contracting and forwarding freight agents of the Pacific Mail Steamship Company and the Toyo Kisen Kaisha.

Referring to the recent revisions of rates and ratings made by the Western Classification Committee on various commodities, the Missouri Railway Commission has given notice that any increases proposed will not be approved or allowed to become effective in that state on intrastate business until the commission has had time to investigate the changes and hold a formal hearing on them if that is considered necessary.

The State Agricultural College of Oklahoma has arranged with the St. Louis & San Francisco to run a lecturing train throughout the lines of that company, in the western part of the state, for about four weeks in November. The train will carry ten lecturers, and will stop a half day in each place visited. Besides the usual exhibits there will be a car of pure bred, live stock and poultry. The college has received an invitation to make a similar trip over the Missouri, Kansas & Texas.

Through the efforts of the Railway Ticket Protective Bureau ticket scalping in Colorado has been practically suppressed. An anti-scalping law was passed on August 6, after it was shown that a petition formulated by the ticket brokers to defeat the law bore several thousand alleged signatures of persons either fictitious or not legally entitled to vote. The newspapers of Denver were prevailed upon to decline to advertise the ticket brokers and many of the scalpers have now abandoned the business. All of the roads belonging to the Transcontinental Passenger Association, except the Chicago, Milwaukee & St. Paul, have decided to continue as members of the bureau.

A new train to run twice weekly between New Orleans and the Pacific coast will be put on by the Sunset-Central lines of the Southern Pacific beginning December 4. Under the proposed schedules, which will reduce by 30 hours the running time between the places mentioned, and which provides for connection with steamboats at other ends of the route, trains will leave New Orleans at 12:30 noon on Mondays and Thursdays of each week, arrive in Los Angeles at 9:15 p. m. Wednesdays and Saturdays, and reach San Francisco at 11 a. m. of the following days. Eastbound, trains will leave San Francisco at 6:30 p. m. Tuesdays and Saturdays, leave Los Angeles at 8:30 a. m. the following days, and arrive in New Orleans at 7:20 p. m. Fridays and Tuesdays. The equipment will be of steel throughout and will consist of a dynamo and baggage car, dining car, three drawing room sleepers and an observation smoking car. The service will be of the highest order, and it is planned to charge $10 excess fare on this train.

The Department of Agriculture acting on a request from a fruit shippers' association has taken measures to confiscate any shipments of unripe oranges or other fruit from Florida which may be found to violate the law. Any attempts to ship artificially ripened fruit out of Florida or to "process" unripe fruit on its journey to the North will be frustrated. A shortage in citrus fruits has developed throughout the North, with accompanying high prices. Much of this shortage is due, it is claimed, to the enforcement of the Florida state law prohibiting the shipment of unripe fruit and the federal pure food decision, which prohibits the transportation of artificially ripened or colored fruit. Dr. Harvey W. Wiley, chief of the Bureau of Chemistry, says: "Fruit may be picked green and ripened by natural processes without running counter to the pure food regulation, but green fruit ripened by the 'sweating process,' without the aid of chemicals, or by transportation in steam heated cars, cannot be transported without violation of the pure food regulations."

Car Surpluses and Shortages.

Arthur Hale, chairman of the committee on relations between railways of the American Railway Association in presenting statistical bulletin No. 103-A, giving a summary of shortages and surpluses by groups from May 25, 1910, to September 27, 1911, says.

"The total car surplus continues to decrease, decreasing from

70,722 cars on September 13, 1911, to 58,382 cars on September 27, 1911, a decrease of 12,340 cars, or 36.29 per cent. The greater part of the decrease is in box and coal cars, box cars decreasing from 19,419 cars on September 13, 1911, to 12,372 cars on September 27, 1911, and coal cars decreasing from 23,795 cars on September 13, 1911, to 19,543 cars on September 27, 1911. Miscellaneous cars show a decrease of 1,638 cars, while flat cars increased 597 cars. The decrease in surplus cars is reported throughout the country, with the exception of groups 2 (New York, New Jersey, Delaware, Maryland and Eastern Pennsylvania); 4 (West Virginia, Virginia, North Carolina and South Carolina), and 5 (Kentucky, Tennessee, Mississippi, Alabama, Georgia and Florida), each of which reports a very small increase.

There is an increase of 1,905 cars reported in the total shortage. Box car shortage increased from 3,452 cars on September 13, 1911, to 6,632 cars on September 27, an increase of 3,180 cars or 92.12 per cent. Miscellaneous cars also show an increase of 174 cars, while flat and coal cars decreased 755 cars and 694 cars respectively."

The accompanying table gives the figures for the last period covered by the report and the chart shows total bi-weekly surpluses and shortages in 1907 to 1911.

National Association of Railway Commissioners.

The National Association of Railway Commissioners began their twenty-third annual convention on Tuesday.

Among other subjects to be considered on reports from subcommittees are the following: Grade crossings and trespassing on railways, railway taxes and plans for ascertaining valuation of railway property, simplification of tariff sheets, legislation, safety appliances, rates and rate making, railway capitalization, car service and demurrage, telephone and telegraph rates and service, express service and rates, etc.

Following the address of Chairman Clements, which was of conservative character, President H. Burr, in the course of his address said:

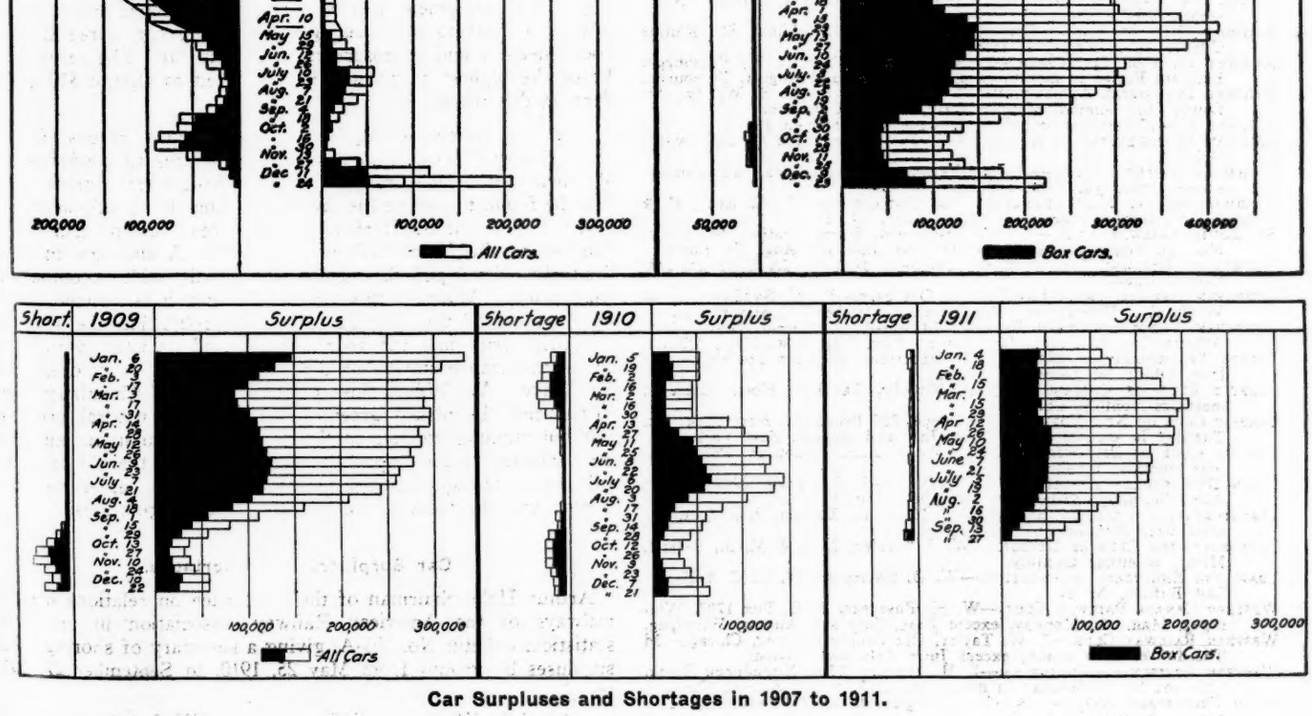
"There should be an act of congress to limit the powers of federal courts to enjoin proceedings of state railway commissions and providing that the federal courts should acquire jurisdiction only by appeal from the highest state court to the Supreme Court of the United States. I think that the National Association of Railway Commissioners should endorse a bill to this effect and see that it is made an issue in the next congressional elections and keep it up until we succeed."

Saying that for the past few years there has been a great migration of homeseekers from one section of the United States

CAR SURPLUSES AND SHORTAGES.

Date.	No. of roads.	Surpluses: Box.	Flat.	Coal, gondola and hopper.	Other kinds.	Total.	Shortages: Box.	Flat.	Coal, gondola and hopper.	Other kinds.	Total.
Group *1.—September 27, 1911	7	447	592	422	185	1,646	285	90	0	0	375
" 2.— " 27, 1911	23	1,103	77	5,893	2,337	9,410	228	4	91	27	350
" 3.— " 27, 1911	25	1,250	252	6,904	1,920	10,326	329	4	50	89	472
" 4.— " 27, 1911	10	111	146	553	1,346	2,156	1,138	6	700	0	1,844
" 5.— " 27, 1911	16	411	14	1,263	1,021	2,709	667	110	20	15	812
" 6.— " 27, 1911	24	6,100	783	1,505	4,733	13,121	180	2	64	6	252
" 7.— " 27, 1911	3	32	30	0	233	295	0	0	30	0	30
" 8.— " 27, 1911	16	1,677	474	1,115	3,088	6,354	95	0	0	0	95
" 9.— " 27, 1911	11	610	384	460	829	2,283	30	0	0	0	30
" 10.— " 27, 1911	20	499	997	1,341	6,197	9,034	1,610	0	0	150	1,760
" 11.— " 27, 1911	5	132	95	87	734	1,048	2,070	151	0	103	2,324
Total	160	12,372	3,844	19,543	22,623	58,382	6,632	367	955	390	8,344

*Group 1 is composed of New England lines; Group 2—New York, New Jersey, Delaware, Maryland and Eastern Pennsylvania lines; Group 3—Ohio Indiana, Michigan and Western Pennsylvania lines; Group 4—West Virginia, Virginia, North and South Carolina lines; Group 5—Kentucky, Tennessee, Mississippi, Alabama, Georgia and Florida lines; Group 6—Iowa, Illinois, Wisconsin, Minnesota and the Dakotas lines; Group 7—Montana, Wyoming and Nebraska lines; Group 8—Kansas, Colorado, Missouri, Arkansas and Oklahoma lines; Group 9—Texas, Louisiana and New Mexico lines; Group 10—Oregon, Idaho, California and Arizona lines; Group 11—Canadian lines.



Car Surpluses and Shortages in 1907 to 1911.

to another, President Burr, who comes from Florida, said that household goods seem to be one class of freight in the handling of which carriers invariably make errors. These errors are a source of great annoyance and inconvenience, as well as causing unnecessary expense to the owners of the goods. He recommended legislation for the recovery by the party aggrieved of a penalty of $250 and attorney's fees for the misquotation of rate or the dropping of prepay from billing, to be collected in an action against the initial carrier.

Continuing he said: "I believe the express business of the country should be conducted as a department of the railway business. I see no sound reason for the existence of a separate and distinct express company as a means of transportation. It is one of the factors of the transportation business which should properly belong to the railway companies and for which they should receive extra compensation for the service rendered. Of course, it will take time to work this out, but there should be a beginning. Congress should take hold of the question and the states should follow."

In admitting that more strict application of cost accounting methods to railway accounts will entail more work and more expense on the carriers, President Burr said that it was necessary, first to determine the proper expense to each state; second, to determine the proper freight and proper passenger expenses; third, the amount chargeable to interstate and to intrastate passengers; fourth, the amount chargeable to interstate and intrastate freight; fifth, the expense to any class of traffic, whether interstate or intrastate.

"These five questions," he said, "are daily before some court or commission in the United States, and it seems, therefore, absolutely essential that cost accounting should be applied to all railway accounts and that if we are to determine these matters justly and intelligently it must be so applied."

Crop Conditions.

The Department of Agriculture estimates the condition of the crops as follows:

For the United States:

Crops.	Condition Oct. 1, or at time of harvest.			Acreage, 1911.		
	1911.	1910.	10-yr. av.	Sept. 1, 1911,	P. C. of 1910.	Acres.
Corn	70.4	80.3	78.6	70.3	101.7	115,939,000
Buckwheat	81.4	81.7	84.2	83.8	97.0	801,000
Potatoes	62.3	71.8	75.3	59.8	97.3	3,495,000
Tobacco	80.5	80.2	83.4	71.1	72.4	893,200
Flax	69.6	47.2	*78.9	68.4	103.3	3,013,000
Rice	85.4	88.1	86.3	87.2	97.6	705,700
Apples	59.8	46.4	52.4	56.2	....	.....

*Eight-year average.

The yields indicated by the condition of crops on October 1, 1911, or at time of harvest, the final yields in 1910, and the average for 1906-1910, follow:

Crop.	Yield per Acre.				Indicated total production, 1911, compared with total production in	
	1911, indicated by condition.	1910. Final.	1906-1910. Average.		1910. P. C.	1906-10. Average. P. C.
Corn	Bus. 23.8	27.4	27.1		88.3	97.9
Buckwheat	Bus. 19.6	20.9	19.6		91.1	98.8
Potatoes	Bus. 79.7	94.4	96.9		82.2	87.0
Tobacco	Lbs. 801.1	797.8	826.0		72.7	88.7
Flax	Bus. 8.1	4.8	†9.9		172.9	104.1
Rice	Bus. 32.0	33.9	32.4		92.1	105.2

†Average for 1905-1909.

Preliminary estimates of production have been made as follows:

Crops.	Yield per Acre.			Production.		
	1911.	1910.	1906-1910.	1911.	1910.	1906-1910 Average.
	Bus.	Bus.	Bus.	Bushels.	Bushels.	Bushels.
Spring wheat	9.7	11.7	13.5	200,367,000	231,399,000	243,186,800
Winter wheat	14.5	15.8	15.5	455,149,000	464,044,000	450,129,600
All wheat	12.6	14.1	14.7	655,516,000	695,443,000	693,316,400
Oats	24.8	31.9	28.4	873,641,000	1,126,765,000	932,124,400
Barley	20.7	22.4	34.8	145,951,000	162,227,000	166,356,000
Rye	15.6	16.3	16.4	30,677,000	33,039,000	32,414,000
	Tons	Tons	Tons	Tons	Tons	Tons
Hay	1.09	1.33	1.41	46,969,000	60,978,000	63,507,400

The quality of spring wheat is 79.8 per cent., compared with a ten-year average of 87.1; oats, 84.6 per cent., compared with a ten-year average of 86.6; barley, 84.9 per cent., compared with a ten-year average of 87.5.

STATE COMMISSIONS.

H. H. Corey, for four years chief clerk in the office of the secretary of state of Oregon, has been appointed secretary of the Oregon Railway Commission, succeeding George O. Goodall, resigned on account of ill health.

The California commission has ordered the Southern Pacific to reduce its freight rates between Los Angeles and the harbor, at San Pedro. The reductions vary from 16 to 40 per cent., and are ordered to be put in effect November 10.

The Railroad Commission of Louisiana, finding that conditions did not warrant ordering a passenger and freight station to be built at Woodlawn, has ordered the St. Louis, Iron Mountain & Southern to build a passenger pagoda with closed freight room connected therewith.

The railway commission of Florida recently issued an order forbidding the transportation of perishable freight on passenger trains 1, 2, 78 and 79, which run between Jacksonville and Pensacola over the joint line of the Louisville & Nashville and the Seaboard Air Line; but the railways refused to comply, and the supreme court of the state, having been appealed to by the commission, has issued a mandamus requiring compliance with the order. The order of the court is returnable October 24. The order of the commission was issued on complaint that the trains did not make reasonably fast time, the complainants demanding that a separate fast freight train be provided for the perishable freight. The order is objected to by the roads on the ground that the commission has prescribed schedules for the passenger trains which involve a meeting point at a blind siding, and on the general ground that a commission should not fix train schedules arbitrarily.

COURT NEWS.

Ouster proceedings brought by the state of Ohio against the Hocking Valley have been ended on the promise of the railway company to relinquish control of the Toledo & Ohio Central, the Sunday Creek Coal Company and other railways and coal companies, and to manage its business hereafter in accordance with the statutes.

The commerce court has overruled an appeal of the Omaha & Council Bluffs Bridge Company, which operates an electric passenger railway between points in Iowa and Nebraska. The court holds that the Interstate Commerce Commission has the right to regulate affairs of an electric railway company doing an interstate passenger business.

The New York State Court of Appeals decides that a trunk which is being moved by an express or transfer company, or otherwise apart from and disconnected with the transportation of the person who owns the trunk, is not baggage, and such company receiving and losing it is liable for its full value. The action was against the New York Transportation Company, which contended it was liable only for $100. A judgment of $1,200 was rendered.

The commerce court has overruled the Interstate Commerce Commission in the socalled lemon rate case. The commission had ordered a reduction in the rate on lemons from California to eastern points from $1.15 to $1 per 100 lbs. The commerce court finds that the ruling of the commission in this case was based entirely on an assumed authority to protect the industry from foreign competition, and the court denied the right of the I. C. C. to issue an order on such grounds. The court did not pass on the reasonableness of the rate.

The commerce court has held that the Interstate Commerce Commission has not got the authority to control in any way that part of the business of water carriers which is called port to port interstate business, although the commission has authority over that part of the business of water carriers which is covered in a joint rate made with the railway. This decision was on an appeal against the order of the I. C. C. to compel certain water carriers to make reports in a form prescribed by the commission on *all* their business. The court expresses the opinion that it is highly important that water carriers should not, in intrastate and interstate commerce, be held to published rates except those which are made with railway companies.

REVENUES AND EXPENSES OF RAILWAYS.

MONTH OF AUGUST, 1911.

Name of road.	Mileage operated at end of period.	Operating revenues			Operating expenses						Net operating revenue (or deficit).	Outside operations, net.	Taxes.	Operating income (or loss).	Increase (or dec.) comp. with last year.
					Maintenance										
		Freight.	Passenger.	Total, inc. misc.	Way and structures.	Of equipment.	Traffic.	Transportation.	General.	Total.					
Alabama & Vicksburg	142	$73,534	$46,111	$128,749	$23,333	$24,668	$3,613	$41,456	$4,954	$98,024	$30,725	—$82	$4,600	$26,043	—$23,914
Alabama Great Southern	309	215,095	118,849	364,144	41,613	84,340	9,872	107,039	8,440	251,304	112,840	174	14,748	98,266	—13,075
Atchison, Topeka & Santa Fe	7,612	4,903,046	1,902,179	7,381,812	1,324,248	1,225,350	158,584	2,028,767	163,026	4,899,975	2,481,837	.....	278,564	2,203,273	—664,210
Atlanta & West Point	92	52,183	43,853	104,117	12,080	19,894	5,362	29,994	4,509	71,839	32,278	115	5,189	27,204	12,277
Atlantic Coast Line	4,493	1,356,009	620,001	2,120,223	344,293	384,928	40,947	808,112	66,079	1,644,359	475,864	.....	107,000	368,864	—58,291
Baltimore & Ohio System	4,433	6,292,828	1,520,316	8,290,515	1,090,822	1,467,186	163,141	2,605,933	155,233	5,482,315	2,808,200	—41,507	239,702	2,526,991	—89,577
Baltimore & Ohio Chicago Terminal	77	.....	2,602	143,816	33,725	14,587	1,056	54,086	4,267	107,721	36,095	742	18,206	18,631	15,784
Bangor & Aroostook	627	197,247	64,642	274,530	50,149	36,997	3,431	80,632	10,897	182,106	92,424	.....	9,250	83,174	16,993
Bessemer & Lake Erie	203	982,650	49,810	1,042,418	82,353	151,075	7,468	209,951	7,726	458,573	583,845	.....	7,000	576,845	111,870
Boston & Maine	2,224	2,191,361	1,753,337	4,230,739	599,135	509,191	37,458	1,639,277	91,642	2,876,703	1,354,036	33,866	172,236	1,215,666	—104,402
Buffalo, Rochester & Pittsburgh	572	718,452	119,995	866,779	147,035	160,740	10,772	258,851	16,633	594,031	272,748	325	17,000	256,073	—78,210
Buffalo & Susquehanna *R. R.*	265	143,616	9,890	161,554	31,076	26,407	1,217	52,256	6,386	117,342	44,212	.....	2,600	41,612	19,030
Buffalo & Susquehanna *Ry.*	91	42,349	13,626	58,185	5,286	28,953	537	24,706	2,796	62,278	—4,093	.....	1,400	—5,614	—10,961
Butte, Anaconda & Pacific	46	74,870	14,960	95,639	9,853	17,894	914	39,400	2,315	70,376	25,263	.....	2,000	23,263	—17,773
Carolina, Clinchfield & Ohio	238	171,883	16,039	191,225	12,515	23,704	5,277	35,785	7,654	84,535	106,690	954	8,000	99,645	46,835
Carolina, Clinchfield & Ohio of S. C.	17	9,273	1,466	10,886	448	72	1,036	2,681	444	4,681	6,205	.....	500	5,705	4,048
Central of Georgia	1,915	614,390	360,724	1,047,779	152,613	230,093	32,578	353,391	34,147	802,822	244,957	7,188	47,400	204,745	—9,088
Central New England	276	221,965	35,233	269,873	59,219	21,058	1,423	70,100	2,207	154,007	115,866	22	9,000	106,888	5,918
Central of New Jersey	671	1,512,033	591,483	2,207,728	225,486	299,293	35,102	636,703	37,058	1,233,642	974,086	68,481	93,994	948,573	149,680
Central Vermont	411	221,148	130,597	381,323	52,764	46,306	9,768	161,027	7,497	277,362	103,961	1,310	11,750	93,521	33,110
Charleston & Western Carolina	340	106,284	37,167	151,409	27,561	21,747	2,635	51,527	4,193	107,663	43,746	.....	5,000	38,746	5,743
Chesapeake & Ohio Lines	2,241	2,313,307	586,414	3,019,132	357,161	566,871	52,846	847,075	58,842	1,882,796	1,136,336	6,616	93,100	1,049,852	12,182
Chicago, Burlington & Quincy	9,074	5,095,305	2,242,868	8,018,070	1,205,059	1,340,675	115,245	2,315,875	182,841	5,159,695	2,858,375	—4,454	264,412	2,589,509	—99,538
Chicago & Eastern Illinois	1,275	986,269	294,920	1,373,790	175,533	232,663	29,284	440,971	40,488	918,940	454,850	—807	38,500	415,543	—49,340
Chicago & Erie	269	372,222	70,706	484,121	85,743	83,427	21,621	186,281	8,785	385,857	98,264	.....	16,450	81,814	—30,516
Chicago Great Western	1,496	741,729	316,059	1,144,321	165,898	158,861	51,453	419,971	35,650	831,833	312,488	929	33,037	280,380	—36,631
Chicago, Indiana & Southern	341	262,854	33,550	304,510	42,510	69,339	9,214	105,610	8,041	234,713	69,797	491	13,900	56,388	26,301
Chicago & Northwestern	7,754	4,155,656	2,050,365	6,788,915	985,449	833,043	136,563	2,499,038	128,022	4,582,115	2,206,800	7,835	275,000	1,939,635	193,471
Chicago, Milwaukee & Puget Sound	2,058	1,061,809	238,289	1,351,410	107,418	141,917	59,175	474,171	16,819	799,500	551,910	18,489	79,334	491,065	—59,270
Chicago, Milwaukee & St. Paul	7,511	3,485,635	1,453,186	5,495,460	1,119,398	796,529	103,208	2,061,605	96,045	4,176,785	1,318,675	7,088	240,562	1,085,201	—459,982
Chicago, Peoria & St. Louis	255	109,076	39,219	155,338	21,951	33,279	7,275	60,048	5,260	127,814	27,524	.....	4,300	23,224	—6,250
Chicago, Rock Island & Pacific	7,551	3,335,814	1,869,333	5,538,483	940,315	793,837	154,896	2,034,321	139,064	4,062,433	1,476,050	—9,093	206,655	1,260,302	—170,470
Chicago, St. Paul, Minneapolis & Omaha	1,743	787,504	443,758	1,320,517	257,465	176,598	25,913	467,407	28,110	955,493	365,024	1,759	65,309	301,474	—146,412
Chicago, Terre Haute & Southeastern	353	134,509	21,346	159,805	27,228	24,957	2,947	44,953	7,831	107,916	51,889	—107	8,700	43,082	—
Cincinnati, Hamilton, & Dayton	1,014	714,918	183,342	1,004,308	111,082	147,656	20,429	363,589	18,485	661,241	343,067	.....	40,716	302,351	87,184
Cincinnati, New Orleans & Texas Pacific	337	595,685	171,417	804,189	70,009	139,646	18,902	217,116	17,630	463,303	340,886	847	21,800	319,933	—29,964
Cincinnati Northern	245	95,817	30,720	132,151	22,690	27,259	3,382	42,180	2,757	98,268	33,883	.....	5,700	28,183	—6,006
Cleveland, Akron & Cincinnati	344	230,007	94,800	346,214	55,989	48,141	4,180	107,812	5,263	221,385	124,829	.....	22,600	102,229	—4,025
Cleveland, Cincinnati, Chic. & St. Louis	2,010	1,745,541	857,768	2,816,418	302,551	382,090	87,537	983,634	50,445	1,806,256	1,010,161	—578	100,000	909,583	261,278
Colorado Midland	337	126,946	40,328	181,134	23,006	30,153	8,097	68,427	5,319	135,002	46,132	—136	8,000	37,996	—3,263
Colorado & Southern	1,247	504,007	185,426	732,001	98,504	135,358	11,517	215,460	21,921	482,760	249,241	—331	24,700	224,210	—219
Cumberland Valley	162	160,485	64,130	235,161	43,935	28,097	4,284	77,337	6,533	160,186	74,975	499	5,141	70,333	—43,307
Delaware & Hudson Co.—R. R. Dept.	851	1,487,203	427,762	1,982,748	120,958	251,714	23,842	612,499	40,323	1,049,336	933,412	1,607	50,692	884,327	103,203
Delaware, Lackawanna & Western	930	2,296,348	751,523	3,240,377	490,001	482,805	62,285	891,681	63,606	1,990,378	1,249,999	49,617	143,500	1,156,116	45,322
Denver, Northwestern & Pacific	214	63,904	70,434	139,622	16,935	15,097	3,090	33,846	3,341	72,309	67,314	.....	3,000	64,314	4,850
Denver & Rio Grande	2,555	1,556,138	558,298	2,188,086	323,630	352,698	54,659	710,164	46,295	1,487,446	700,640	8,251	70,000	638,891	—71,776
Detroit & Mackinac	353	69,493	39,490	115,066	19,826	18,366	3,182	34,095	2,828	78,297	36,769	424	8,109	29,084	—7,013
Detroit, Toledo & Ironton	441	131,396	18,696	161,305	27,201	19,285	2,760	67,207	5,410	121,863	39,442	245	7,528	32,159	8,389
Duluth & Iron Range	191	1,028,614	22,931	1,059,812	101,775	61,268	1,166	148,324	10,232	322,765	737,047	5,202	42,759	699,490	—140,765
Duluth, Missabe & Northern	328	1,079,254	41,172	1,130,927	115,255	81,404	2,148	143,470	12,262	354,539	776,388	12,845	46,041	743,192	—785,603
Erie	1,995	3,354,763	949,035	9,633,634	658,427	701,789	110,004	1,347,239	74,419	2,891,878	1,741,756	20,662	163,025	1,599,393	—86,591
El Paso & Southwestern Co.	901	436,089	74,986	540,467	80,713	85,660	12,611	149,043	23,152	351,179	189,288	—1,545	21,076	166,667	—60,295
Elgin, Joliet & Eastern	841	791,401	3	835,459	70,774	139,614	4,092	221,169	13,344	448,993	386,466	.....	16,725	369,741	177,424
Florida East Coast	583	107,106	78,675	213,492	55,485	51,990	4,945	93,316	7,683	213,419	73	.....	15,500	—15,427	—7,076
Fort Worth & Denver City	454	232,092	173,092	424,587	32,115	58,659	6,774	119,277	12,058	228,883	195,704	—370	12,000	183,334	1,518
Galveston, Harrisburg & San Antonio	1,338	654,657	244,203	942,162	114,689	145,809	30,365	319,805	29,104	639,772	302,390	—5,000	30,442	266,948	—1,842
Georgia	307	155,228	87,163	257,275	27,304	43,170	11,484	107,920	8,004	197,882	59,393	.....	2,100	57,293	26,368
Grand Rapids & Indiana	587	233,411	234,384	503,538	49,901	62,460	11,498	184,990	14,102	322,951	180,587	404	22,964	158,027	36,807
Great Northern	7,344	4,236,365	1,361,861	6,000,950	798,358	656,274	81,018	1,503,773	91,531	3,130,954	2,869,996	40,989	275,723	2,635,263	352,850
Gulf, Colorado & Santa Fe	1,587	608,784	297,608	958,339	200,959	160,167	20,729	351,176	29,812	762,843	195,496	.....	35,761	159,735	—29,620
Gulf & Ship Island	307	116,740	38,332	165,789	29,693	28,685	1,748	45,561	7,053	112,740	53,049	.....	5,311	47,738	—6,662
Houston & Texas Central	789	339,804	178,668	553,993	75,273	71,163	19,220	192,146	21,243	379,045	174,949	—1,551	17,834	155,564	13,624
Houston East & West Texas	190	70,608	31,466	108,648	18,931	9,905	1,957	31,878	3,596	66,267	42,381	.....	3,354	39,027	—9,911
Illinois Central	4,755	3,505,731	1,328,978	5,506,601	851,145	1,145,072	123,908	1,842,529	125,355	4,088,009	1,418,592	—5,352	231,000	1,182,240	7,514
Iowa Central	558	228,519	58,421	300,497	38,729	48,914	7,505	113,493	8,092	216,733	83,764	.....	9,643	74,121	1,749
Kanawha & Michigan	175	287,162	32,455	324,731	34,859	52,084	2,240	77,855	6,172	173,210	151,521	—29	9,378	142,114	5,341
Kansas City Southern	827	549,062	153,041	792,284	83,863	107,817	24,387	270,783	29,238	516,088	276,196	.....	34,612	241,584	—59,152
Lake Erie & Western	886	406,977	112,297	544,700	63,530	90,208	13,011	184,512	10,780	362,042	182,658	.....	19,883	162,775	15,050
Lake Shore & Michigan Southern	1,662	2,841,838	1,292,019	4,655,514	475,324	540,377	97,302	1,255,975	76,337	2,445,315	2,210,199	5,262	135,000	2,080,461	711,968
Lehigh & Hudson River	96	119,884	6,794	129,490	20,885	17,798	993	38,454	2,869	80,999	48,491	.....	3,500	44,991	3,434
Lehigh Valley	1,429	2,737,978	574,019	3,423,485	373,957	579,459	80,110	1,107,252	65,718	2,206,496	1,216,989	—21,189	105,200	1,090,599	79,416
Long Island	398	283,049	828,703	1,160,112	109,040	100,412	16,476	431,640	17,948	675,516	484,596	92,404	53,553	523,447	88,698
Louisiana & Arkansas	255	81,910	19,153	105,408	26,168	18,413	2,193	28,030	5,128	79,933	25,475	.....	3,150	22,325	—30,593

REVENUES AND EXPENSES OF RAILWAYS.

MONTH OF AUGUST, 1911—(CONTINUED).

Name of road.	Mileage operated at end of period.	Operating revenues			Operating expenses						Net operating revenue (or deficit).	Outside operations, net.	Taxes.	Operating income (or loss).	Increase (or dec.) comp. with last year.
		Freight.	Passenger.	Total, inc. misc.	Maintenance: Way and structures.	Maintenance: Of equipment.	Traffic.	Transportation.	General.	Total.					
Louisiana Ry. & Nav. Co.	350	119,434	24,401	155,185	25,619	17,034	6,057	54,675	5,451	108,836	46,349	.....	4,600	41,749	10,677
Louisville, Henderson & St. Louis	199	64,647	39,722	110,230	31,625	12,025	4,313	30,780	3,035	81,778	28,452	363	3,000	25,815	2,578
Louisville & Nashville	4,643	3,231,435	1,114,878	4,593,083	724,050	857,924	88,881	1,398,993	80,601	3,150,449	1,442,634	7,049	148,950	1,300,731	116,046
Louisville & Nashville	207	105,811	53,934	166,581	17,147	30,858	8,182	45,857	6,825	108,869	57,712	418	6,402	51,728	—1,400
Louisiana Western	1,165	526,380	417,171	999,355	211,383	102,261	12,836	321,095	20,854	668,429	330,926	2,690	41,311	292,305	55,390
Maine Central	1,804	1,597,001	921,983	2,773,637	249,152	245,739	70,177	921,535	47,445	1,534,048	1,239,589	9,670	110,000	1,139,259	460,537
Michigan Central	323	68,882	34,967	110,915	32,433	22,388	3,660	37,596	5,836	101,913	9,002	.....	5,484	3,518	—2,012
Midland Valley	1,027	252,010	129,586	412,545	48,351	55,804	11,062	164,245	11,533	290,995	121,550	—99	18,121	103,330	—14,313
Minneapolis & St. Louis	1,743	917,778	407,606	1,421,484	295,811	245,635	35,615	440,716	41,242	1,059,019	362,465	366	58,500	304,331	—50,424
Missouri, Kansas & Texas	1,114	632,670	141,296	897,200	109,257	176,699	28,763	319,638	30,286	664,643	232,557	—1,035	24,595	206,927	—55,961
Mobile & Ohio	64	91,850	2,442	95,685	17,463	5,945	248	20,881	1,874	46,411	49,274	.....	1,900	47,374	—5,001
Monongahela	404	258,219	100,852	377,169	49,769	63,250	14,642	139,170	12,895	279,726	97,443	—3,456	18,698	75,289	2,253
Morgan's La. & Tex. R. R. & S. S. Co.	1,255	679,898	277,405	1,019,633	164,149	188,978	37,672	359,591	24,282	774,672	244,961	363	23,816	221,508	20,372
Nashville, Chattanooga & St. Louis	165	107,106	10,783	120,694	14,163	14,288	536	23,724	2,977	55,688	65,006	.....	4,925	60,081	—3,418
Nevada Northern	195	202,308	55,411	275,502	29,564	50,320	8,547	92,944	10,186	191,561	83,940	—1,171	9,250	73,519	—34,931
New Orleans & Northeastern	2,091	2,614,022	2,508,455	5,598,020	644,649	656,774	27,928	1,983,878	161,842	3,475,071	2,122,949	132,887	310,000	1,945,836	—4,797
New York, New Haven & Hartford	565	603,522	306,987	951,497	138,363	134,329	9,656	306,053	15,983	604,384	347,113	2,039	17,917	331,235	—44,622
New York, Ontario & Western	112	235,111	54,846	311,381	32,965	44,873	3,280	109,542	12,293	202,953	108,428	.....	7,500	100,928	10,179
New York, Philadelphia & Norfolk	152	182,488	57,444	267,339	33,875	22,122	3,005	93,038	4,411	156,451	110,888	3,572	24,014	90,446	28,313
New York, Susquehanna & Western	282	108,561	31,805	149,440	19,046	20,169	2,661	45,016	6,886	93,778	55,662	—112	2,000	53,550	—4,724
New Orleans Great Northern	404	108,383	32,555	149,532	26,692	16,750	2,636	45,586	7,163	98,827	50,705	—318	4,493	45,894	—8,554
New Orleans, Mobile & Chicago	3,591	5,097,001	3,424,713	9,426,413	1,238,094	1,212,186	171,582	3,057,818	198,861	5,878,541	3,547,872	37,837	418,069	3,167,640	780,938
New York Central & Hudson River	561	798,532	176,996	1,013,563	128,656	91,982	44,608	379,798	16,991	662,035	351,528	—476	39,000	312,052	81,343
New York, Chicago & St. Louis	2,004	2,952,051	428,319	3,491,861	490,288	596,360	46,399	914,639	56,649	2,104,535	1,387,326	—3,348	115,000	1,268,977	160,582
Norfolk & Western	607	149,483	86,338	260,531	27,559	34,425	6,965	84,444	11,192	164,585	95,946	—3,471	7,500	84,975	—871
Norfolk & Southern	472	782,246	225,639	1,065,087	140,257	208,180	14,678	494,117	21,383	878,615	186,472	850	40,337	146,985	—62,743
Northern Central	6,016	3,486,403	1,659,721	5,523,736	847,599	557,168	103,489	1,629,066	78,120	3,215,442	2,308,294	54,280	276,187	2,086,387	—267,292
Northern Pacific	1,667	1,202,410	466,257	1,756,449	279,628	184,300	26,775	392,795	33,949	917,447	839,002	667	76,666	763,003	—50,225
Oregon Short Line	1,855	873,468	491,256	1,444,716	207,995	142,630	43,132	470,234	36,664	900,655	544,061	10,346	71,332	483,075	.....
Oregon-Washington R. R. & Nav. Co.	296	100,545	33,924	140,967	19,655	28,057	1,445	41,350	4,428	94,935	46,032	.....	3,447	42,585	—11,414
Pecos & Northern Texas	1,415	3,740,496	863,855	4,970,462	592,901	778,295	77,488	1,514,049	84,749	3,047,482	1,922,980	—670	170,598	1,751,712	—159,449
Pennsylvania *Co.*	3,978	9,630,297	3,317,363	13,763,668	1,543,716	2,572,750	173,871	4,831,042	335,271	9,456,650	4,307,018	—143,406	605,931	3,557,681	—282,332
Pennsylvania *R. R.*	351	198,413	71,779	294,534	39,569	35,769	6,404	114,250	5,276	201,267	93,266	.....	10,500	82,766	—19,719
Peoria & Eastern	2,331	895,918	496,684	1,516,400	166,161	216,787	42,480	614,907	31,002	1,071,337	445,063	—1,672	56,275	387,116	18,472
Pere Marquette	713	825,153	713,202	1,683,961	218,277	273,724	22,695	635,878	32,193	1,182,767	501,194	.....	50,697	450,497	3,115
Philadelphia, Baltimore & Washington	1,467	2,410,822	805,844	3,591,392	488,698	591,825	74,545	1,156,514	65,816	2,377,398	1,213,994	—1,063	128,013	1,084,918	39,499
Pittsburgh, Cincinnati, Chicago & St. Louis	215	1,326,513	160,679	1,528,182	142,589	248,881	15,048	313,188	23,275	742,981	785,201	84	30,000	755,285	—121,097
Pittsburgh & Lake Erie	83	90,986	64,586	178,798	21,051	24,051	2,483	71,136	5,479	124,200	54,598	.....	1,000	53,598	—446
Richmond, Fredericksburg & Potomac	468	151,893	130,362	319,533	42,168	36,234	8,104	112,636	6,312	205,454	114,079	.....	10,843	103,236	—1,431
Rutland	319	92,286	47,336	152,381	23,934	17,747	5,478	57,308	5,197	109,664	42,717	10	5,711	37,016	17,127
St. Joseph & Grand Island	509	136,025	59,518	210,048	44,953	12,199	2,634	67,119	8,390	135,295	74,753	.....	4,500	70,253	38,370
St. Louis, Brownsville & Mexico	9	.....	275	134,385	28,547	6,948	535	72,561	5,331	113,922	20,463	.....	5,700	14,763	—50,155
St. Louis Merchants Bridge Terminal	243	51,333	30,260	89,410	12,400	12,099	3,309	49,532	4,275	81,615	7,795	.....	1,360	6,435	2,844
St. Louis, San Francisco & Texas	796	458,753	125,592	611,408	52,863	121,648	25,954	146,842	20,649	367,956	243,452	—785	19,564	223,103	—13,515
St. Louis Southwestern	703	200,811	98,940	323,310	43,825	89,126	10,812	123,066	15,599	282,428	40,882	—151	10,000	30,731	71,253
St. Louis Southwestern of Texas	727	344,297	118,951	483,863	57,047	52,543	5,576	155,113	9,107	279,386	204,477	.....	11,000	193,477	22,040
San Antonio & Aransas Pass	1,113	419,104	290,028	750,844	155,601	144,139	31,539	265,909	16,374	613,562	137,282	—4,150	24,700	108,432	14,201
San Pedro, Los Angeles & Salt Lake	364	90,828	35,619	135,334	22,983	13,848	2,506	38,288	5,179	82,804	52,530	.....	4,333	48,196	10,477
Santa Fe, Prescott & Phoenix	7,088	3,156,105	1,718,969	5,265,619	613,832	868,493	141,855	1,736,591	141,974	3,502,745	1,762,874	7,625	196,774	1,573,725	77,277
Southern	280	43,973	37,029	88,674	22,120	10,868	1,758	33,770	3,638	72,154	16,520	.....	5,216	11,304	3,594
Southern in Mississippi	125	89,695	16,765	110,656	10,357	18,391	1,386	37,466	4,130	71,730	38,926	.....	1,981	36,945	1,502
Southern Kansas of Texas	6,182	4,571,464	2,842,182	7,944,511	1,076,813	896,369	217,092	2,096,379	206,037	4,492,690	3,451,821	36,319	301,144	3,186,996	—442,850
Southern Pacific Co.	58	82,998	16,961	103,726	12,647	1,457	22	22,515	425	37,066	66,660	.....	3,673	62,987	8,643
Sunset	81	49,746	39,935	101,761	21,381	5,951	2,666	30,879	2,267	63,144	38,617	.....	6,220	32,397	—5,602
Syracuse, Binghamton & New York	293	93,949	35,788	136,820	21,993	18,751	4,927	47,819	7,626	101,116	35,704	.....	4,212	31,492	—17,545
Tennessee Central	35	.....	258	210,919	36,891	21,466	765	71,267	5,323	135,712	75,207	14,262	26,000	63,469	—18,993
Terminal R. R. Ass'n of St. Louis	458	212,650	88,240	319,000	69,093	60,493	7,231	113,376	9,806	259,999	59,001	—180	12,248	46,573	—12,107
Texas & New Orleans	1,884	826,643	379,417	1,304,160	175,175	184,385	28,719	512,503	41,242	942,024	362,136	—250	38,000	323,886	100,655
Texas & Pacific	440	400,383	82,628	507,736	65,397	56,320	7,981	147,111	8,597	285,406	222,330	—735	25,706	195,889	11,728
Toledo & Ohio Central	247	68,472	43,903	117,692	17,993	22,985	2,377	40,659	3,377	87,392	30,300	.....	4,800	25,500	—6,041
Toledo, Peoria & Western	9	112,754	21,730	135,804	9,772	.....	927	5,584	2,172	18,455	117,349	.....	5,923	111,426	—7,378
Union R. R. of Baltimore	31	.....	.....	464,905	27,443	81,254	108	131,684	2,399	242,888	222,017	4,560	3,250	223,327	42,399
Union R. R. of Pennsylvania	3,497	2,940,892	1,030,394	4,354,572	465,650	417,603	111,985	1,097,792	90,805	2,183,835	2,170,737	4,654	151,650	2,023,741	—355,925
Union Pacific	827	560,161	231,335	883,092	137,236	158,339	28,737	317,049	20,060	661,421	221,671	.....	28,301	193,370	—59,197
Vandalia	171	58,637	45,620	113,508	21,034	26,676	3,081	35,462	4,389	90,642	22,866	—221	6,300	16,345	—18,504
Vicksburg, Shreveport & Pacific	474	364,419	29,211	404,004	48,987	66,379	5,095	102,753	7,953	231,167	172,837	4,872	17,300	160,409	51,001
Virginian	240	131,378	15,445	149,962	16,358	26,515	1,853	38,579	3,580	86,885	63,077	.....	4,860	58,217	17,812
Virginia & Southwestern	2,514	1,712,640	772,418	2,700,639	377,942	422,464	85,132	933,559	78,903	1,898,000	802,639	641	71,655	731,625	—186,633
Wabash	35	32,498	33,414	88,151	18,165	11,716	1,174	35,362	2,428	68,845	19,306	.....	3,244	16,062	—20,993
Washington Southern	133	58,311	42,248	108,601	19,918	22,104	5,370	29,578	5,518	82,488	26,113	—246	4,612	21,255	6,296
Western Ry. of Alabama	355	150,771	672,612	871,814	99,938	130,101	13,544	275,803	9,582	528,968	342,846	—1,229	23,473	318,144	—89,443
West Jersey & Seashore	514	649,725	68,781	765,609	108,757	121,621	7,389	203,872	12,517	454,156	311,453	784	31,618	280,619	34,793
Wheeling & Lake Erie	1,371	505,252	249,467	809,821	176,564	117,472	17,587	278,670	25,049	615,342	184,479	.....	38,000	156,113	120,885
Yazoo & Mississippi Valley															

Railway Officers.

ELECTIONS AND APPOINTMENTS.

Executive, Financial and Legal Officers.

The financial, accounting, traffic and purchasing officers of the Keweenaw Central have been removed from Hancock, Mich., to Phoenix.

Wilson & Dabney of Houston, Tex., have been appointed general attorneys of the International & Great Northern, succeeding John M. King.

A. H. Mansfield, assistant general claim agent of the Missouri Pacific at St. Louis, Mo., has been appointed claims attorney, a new position, with office at St. Louis, W. E. Jones, general claim agent, having resigned, that office has been abolished.

George H. Campbell, vice-president of the Kentucky & Indiana Terminal Railroad Company at Baltimore, Md., has been elected president, succeeding Fairfax Harrison (president of the Chicago, Indianapolis & Louisville), whose term expired. Mr. Campbell is also assistant to the president of the Baltimore & Ohio.

Newman Erb, chairman of the board of the Ann Arbor and president of the Tennessee, Alabama & Georgia with office at New York City, has been elected president also of the Minneapolis & St. Louis and the Iowa Central, succeeding T. P. Shonts, resigned. Mr. Shonts remains a director of both these companies.

B. C. Cushman, treasurer of the Galveston, Harrisburg & San Antonio, and the Texas & New Orleans, at Houston, Tex., having retired on a pension, Eugene Dargan, treasurer of the Houston East & West Texas, has been elected treasurer of the Texas & New Orleans, succeeding Mr. Cushman; and C. B. Udell, treasurer of the Houston & Texas Central, has been elected also treasurer of the Galveston, Harrisburg & San Antonio, succeeding Mr. Cushman and of the Houston East & West Texas, succeeding Mr. Dargan.

J. E. Dalrymple, who was recently elected vice-president of the Grand Trunk and fourth vice-president of the Grand Trunk Pacific, with office at Montreal, Que., as has been announced in these columns, has been elected also vice-president of the Central Vermont, in charge of traffic. Mr. Dalrymple began railway work on July 1, 1883, as an apprentice in the treasurer's office of the Grand Trunk at Montreal, and from 1886 to 1889 was clerk in the same office. In April, 1890, he was appointed secretary to the traffic manager at Chicago, of the Chicago & Grand Trunk, now a part of the Grand Trunk System, and on February 1, 1896, he became secretary to the general traffic manager of the Grand Trunk at Montreal. He was appointed division freight agent of the same road in May, 1899, at Hamilton, Ont., and the following August was transferred in the same capacity to Detroit, Mich, and was also made manager of the Grand Trunk Despatch Fast Freight Line, operating in connection with the Grand Trunk and West Shore Railroad. On May 1, 1900, he was appointed general freight agent of the Central Vermont at St. Albans, Vt. The following March he was appointed assistant to the second vice-president and general manager of the Grand Trunk at Montreal, Que., and from April, 1902, to August, 1905, he was general freight agent of the Central Vermont at St. Albans, Vt. He was then appointed general freight agent of the Grand Trunk at Montreal, Que., and on May 1, 1908, was made assistant freight traffic manager of the Grand Trunk Pacific at Winnipeg, Man., and since June 1, 1910, he was also assistant freight traffic manager of the Grand Trunk Pacific Coast Steamship Company.

J. E. Dalrymple.

Operating Officers.

Charles J. O'Neil has been appointed trainmaster of the St. Paul & Kansas City Short Line of the Rock Island System, with office at Des Moines, Iowa.

C. L. Mayne, acting superintendent of the Southern Kansas division of the Missouri Pacific at Coffeyville, Kan., has been appointed superintendent, with office at Coffeyville.

J. A. Cook, assistant trainmaster of the Wabash, in charge of Kansas City and Randolph terminals at Kansas City, Mo., has been appointed trainmaster of the 15th and 16th districts, with office at Moulton, Iowa., succeeding C. A. Ross, assigned to other duties. J. P. Shields succeeds Mr. Cook.

G. R. Carlton, trainmaster of the Seaboard Air Line at Plant City, Fla., has been appointed superintendent of the Third division, with office at Atlanta, Ga., succeeding J. M. Shea, promoted. T. H. Furman, trainmaster at Abbeville, S. C., succeeds Mr. Carlton; T. W. Parsons, trainmaster at Birmingham, Ala., succeeds Mr. Furman; W. E. Guess, chief despatcher at Atlanta, Ga., succeeds Mr. Parsons, and J. P. Crumley, a despatcher, succeeds Mr. Guess.

William F. Ray, whose appointment as superintendent of the Portland division of the Boston & Maine, with office at Boston, Mass., has been announced in these columns, was born in 1857 at South Vernon, Vt. He was educated at Ft. Wayne and at the University of Notre Dame, South Bend, Ind. He began railway work in 1874 with the Connecticut River Railroad, now part of the Boston & Maine, at Springfield, Mass., as locomotive fireman and later held various positions in the freight train service, including that of brakeman and conductor, and then entered the passenger train service as conductor. He was then appointed trainmaster and was later assistant superintendent. In 1903 he was appointed superintendent of the Concord division, which position he held at the time of his recent appointment, as above noted.

A. E. Boughner, who has been appointed superintendent of transportation of the Missouri, Kansas & Texas System, with office at Denison, Tex., as has been announced in these columns, was born in 1861 at St. Thomas, Ont., Can. He received a common school education and began railway work in 1876 with the Canada Southern, now part of the Michigan Central, where he was consecutively until 1880 messenger, call boy and telegraph operator. In the latter year he went with the Illinois Central as an operator in the despatcher's office at Centralia, Ill., and in 1881 was appointed to a similar position with the Missouri, Kansas & Texas at Denison, where he remained for three years. From 1884 to 1886 he was chief despatcher at Fort Worth, Tex. He was out of service then for two years on account of illness and in 1888 was appointed a despatcher of the Missouri, Kansas & Texas at Sedalia, Mo. He was chief despatcher at Sedalia for nine years from 1893, and was then promoted to assistant superintendent at Parsons, Kan. He was appointed superintendent at Franklin Junction, Mo., in 1903, and was transferred with the same title to Sedalia in 1910, which position he held at the time of his appointment above.

Traffic Officers.

E. S. Le Gette has been appointed soliciting agent of the Central of Georgia, with office at Albany, Ga.

W. D. Miller has been appointed a soliciting freight agent of the Tennessee Central, with office at Nashville, Tenn.

James B. Irvine has been appointed soliciting agent of the Central of Georgia, with office at Chattanooga, Tenn.

Richard Townsend has been appointed general agent of the Missouri, Oklahoma & Gulf, with office at Pittsburgh, Pa.

D. W. Agnew has been appointed soliciting freight agent of the Georgia Southern & Florida, with office at Cincinnati, Ohio.

J. J. Clarke has been appointed contracting freight agent of the Illinois Central, with office at Chicago, succeeding H. E. Wilson, resigned.

Archibald Gray, assistant general freight and passenger agent of the Great Northern at Portland, Ore., has been appointed general freight agent of the Western Pacific, with office at San Francisco, Cal.

P. B. Wolcott has been appointed immigration agent of the Chicago, Milwaukee & St. Paul, with office at Chicago, succeeding George B. Haynes, recently promoted to assistant general passenger agent.

Leo B. Hendrix has been appointed district passenger agent of the Chicago Great Western, with headquarters at Pittsburgh, Pa., and Buffalo, N. Y., succeeding W. D. Jones, resigned to accept service with another company.

H. E. Williams, freight soliciting agent of the Southern Railway, at Atlanta, Ga., has been appointed a traveling freight agent, with office at Macon, succeeding Harvey Kidwell, resigned. W. N. Hill succeeds Mr. Williams, and A. E. Dicks has been appointed freight soliciting agent, with office at Raleigh, N. C., succeeding R. L. Potts, resigned.

W. J. Doyle, traveling freight agent of the St. Louis Southwestern of Texas at Waco, Tex., has been appointed assistant agricultural and industrial agent of the St. Louis Southwestern System, with office at St. Louis, Mo., succeeding L. E. Saupe, resigned to engage in other business. C. D. Bowman, city passenger and ticket agent at Fort Worth, Tex., succeeds Mr. Doyle.

H. E. Heller, general agent in the freight and passenger departments of the Chicago, Burlington & Quincy at Philadelphia, Pa., has been appointed general agent, with office at Kansas City, Mo., succeeding W. H. Hill, assistant general freight agent, transferred. William Austin, general agent at Cincinnati, Ohio, succeeds Mr. Heller, and H. K. Miles, traveling freight agent at Cincinnati, has been promoted to general agent, freight department, succeeding Mr. Austin. W. B. Kelby succeeds Mr. Miles.

S. C. Nash, general agent in the freight and passenger departments of the Texas & Pacific at Los Angeles, Cal., has been appointed Pacific coast traffic agent, with offices at Los Angeles and San Francisco. All freight and passenger representatives of the road in California, Washington, Oregon and Nevada will report to him and will be under his jurisdiction. Communications should be addressed to him at Los Angeles. W. J. Moylan, traveling freight agent at San Francisco, has been appointed commercial agent, with headquarters at San Francisco, and Irwin Wapple has been appointed commercial agent, with office at Los Angeles, the position of district freight agent at Los Angeles having been abolished.

Engineering and Rolling Stock Officers.

W. H. Tool has been appointed master of bridges and buildings of the Grand Trunk, with office at Allandale, Ont., succeeding E. Brown, resigned.

H. H. Hale has been appointed superintendent of motive power of the Cincinnati, Hamilton & Dayton, with office at Cincinnati, Ohio, succeeding W. L. Kellogg, resigned to accept service with the Pere Marquette.

W. L. Kellogg, superintendent motive power and car department of the Cincinnati, Hamilton & Dayton at Cincinnati, Ohio, has been appointed superintendent of motive power of the Pere Marquette, with office at Detroit, Mich.

Horace Y. Harris, whose appointment as master mechanic of the Tampa Northern, with office at Tampa, Fla., has been announced in these columns, was born October 31, 1885, at Geneva, Ga. Mr. Harris received a high school education and began railway work on January 1, 1900, with the Tifton, Thomasville & Gulf, now a part of the Atlanta, Birmingham & Atlantic. He remained with that company four years, and then went to the Georgia, Florida & Alabama as a machinist, and was later general foreman, resigning in April, 1907, to go to the Tampa Northern as general foreman, which position he held at the time of his recent appointment as master mechanic.

Special Officers.

Dr. Albert E. Campbell has been appointed sanitary inspector of the Illinois Central, with office at Chicago, his work to be directed toward the improvement of sanitary conditions in the territory through which the road runs.

Equipment and Supplies.

LOCOMOTIVE BUILDING.

The Akron, Canton & Youngstown, Akron, Ohio, is in the market for 5 six-wheel switching locomotives.

The Grand Trunk has ordered 25 locomotives from the Canadian Locomotive Company, and is in the market for 4 Mogul locomotives.

The Kentucky & Tennessee has ordered 1 ten-wheel locomotive from the Baldwin Locomotive Works. The dimensions of the cylinders will be 20 in. x 24 in., the diameter of the driving wheels will be 51 in., and the total weight in working order will be 110,000 lbs.

CAR BUILDING.

The Erie has ordered 300 automobile cars from the American Car & Foundry Company.

The Grand Trunk is taking prices on ten 30-ft. and ten 40-ft. steel underframe flat cars.

The Delaware, Lackawanna & Western is in the market for 1,000 steel underframes.

The Chicago, Rock Island & Pacific is in the market for 500 furniture cars and 250 flat cars.

The Akron, Canton & Youngstown, Akron, Ohio, is in the market for 50 fifty-ton four-door drop-bottom gondola cars, 35 forty-ton box cars and 15 fifty-ton flat cars.

The Missouri Pacific has ordered 1,000 gondola cars, 500 flat cars and 400 stock cars from the American Car & Foundry Company; and 500 stock cars from the Mt. Vernon Car Manufacturing Company.

IRON AND STEEL.

The Norfolk & Western is making inquiries for 30,000 tons of Bessemer rails.

The Boston & Maine has ordered 4,500 tons of rails from the Carnegie Steel Company.

The Buffalo, Rochester & Pittsburg is in the market for 1,000 tons of bridge steel.

The Southern has ordered 2,100 tons of rails from the Tennessee Coal, Iron & Railroad Company.

The Baldwin Locomotive Works is in the market for 5,000 tons of structural steel for the new addition to its plant at Eddystone, Pa.

The New York Central has placed orders for 1,050 tons of structural steel and is in the market for 1,500 tons of bridge steel for the bridge at Oswego, N. Y.

General Conditions in Steel.—The steel industry shows little change and there are no indications of an early advance in prices from the present low level. The policy is to maintain the high rate of production rather than to obtain a reasonable margin of profit. The independent companies suffer more from this policy than does the Steel Corporation, for the latter can practise economies that would be impossible for the former. The railways are buying heavily, and in fact all classes of buyers are taking advantage of the low prices.

MACHINERY AND TOOLS.

The Delaware, Lackawana & Western has placed orders for machine tools to cost about $8,000 for the shops at Scranton, Pa.

The Pecos Valley Southern has issued a small list of machine tools for the shops at Pecos, Texas, including a drill press, bolt cutter, lathe and air compressor.

Supply Trade News.

Halsted Little, for many years in the sales department of Manning, Maxwell & Moore, New York, has been made eastern sales agent of the Detroit Twist Drill Company, Detroit, Mich., with office in New York.

Louis E. Welsh has been made district manager of the MacArthur Concrete Pile & Foundation Company, New York, for New Jersey, Pennsylvania, Delaware, Maryland and the District of Columbia, with office in the Perry building, Philadelphia, Pa.

The Circuit Court of Appeals, Seventh district, has decided the case of the Lemac Carriers Company vs. the Live Poultry Transportation Company, both of Chicago, regarding an infringement of patents, in favor of the former company, reversing the decision of the lower courts.

The Independent Pneumatic Tool Company, Chicago, has opened a branch office in the Candler building, Atlanta, Ga. J. J. Keefe, southern traveling representative, has been made manager of the new office. A full line of Thor air tools and parts will be carried in stock.

The Corrugated Bar Company, St. Louis, Mo., will on October 14 move its general offices to the Mutual Life building, Buffalo, N. Y. This change was decided on because the company's warehouse and plants are near Buffalo. A district office will be maintained at the present headquarters.

The Calumet Car Company, East Chicago, Ind., has filed articles of incorporation with $75,000 capital. It is the purpose of the company to build a plant and manufacture, rebuild and repair cars and industrial equipment of all kinds. Thomas C. McCalla, Arthur N. Eroe, Walter L. Lytton and Daniel W. Rodgers are directors.

The Oeking Company, 50 Church street, New York, has been incorporated to sell the punching and shearing machines made by the Stahlwerk Oeking, Dusseldorf, Germany. A large stock of machines will shortly be on hand for prompt deliveries in Jersey City, N. J., where warehouse facilities have been provided. The management of the Oeking Company is in the hands of the Wiener Machinery Company, New York, which has made a specialty of importing similar machines. The German Oeking plant makes its own steel castings.

TRADE PUBLICATIONS.

Turbines.—The De Laval Turbine Company, Trenton, N. J., has published a 32-page pamphlet on steam turbines for driving direct current generators, in which it discusses the different types of turbines and their comparative merits. The pamphlet includes illustrations and diagrams.

Blasting Supplies.—The E. I. Du Pont De Nemours Powder Company, Wilmington, Del., has published a very full booklet on blasting and blasting supplies describing various materials and appliances especially designed for blasting. The booklet is illustrated and contains useful information on the methods of using, preserving and testing blasting equipment.

Air Pumps.—The Wheeler Condenser & Engineering Company, Carteret, N. J., has issued bulletin 103 describing the Wheeler-Edwards air pump which is used in connection with surface condensers. The bulletin contains 32 pages and over 50 illustrations, which include photographs of the various types of the company's air pumps. A sectional view of the pump is given, with the different parts numbered and listed; also instructions for installing and operating.

Dump Wagons.—The Troy Wagon Works, Troy, Ohio, has issued an illustrated folder entitled Tests That Tell showing four tests that this company recently made to ascertain the maximum load a Troy wagon will carry, the resistance the rear wheel has against the strain brought to bear upon it when the wagon is resting on the side of a steep hill, the resistance of the rear wheel to the strain exerted when it is caught in a rut and when the horses attempt to pull it out, and the strength of the Troy square solid steel rear axle. The tests were made in the laboratory of Purdue University at Lafayette, Ind.

Railway Construction.

New Incorporations, Surveys, Etc.

Atchison, Topeka & Santa Fe.—The report of this company for the year ended June 30, 1911, shows that the total number of miles in operation on lines of the Atchison system, was 10,400.37 miles, as compared with 9,961.25 miles for the previous year, an increase of 439.12 miles. In addition, there was completed on June 30, 242.64 miles, all of which will be ready for operation in the near future. The company also controls through ownership of stock and bonds other lines aggregating 101.78 miles, and is interested jointly with other companies in 578.72 miles. During the year there was finished on the line between Coleman, Tex., and Lubbock, a section of 17.54 miles between Lubbock and Slaton Junction, and it is expected that the entire line between Coleman and Lubbock will be completed by November, 1911. The branch line from Slaton Junction to Lamesa, 54 miles, has been opened for traffic and the line from Lometa to Eden, 98 miles, has been completed to Brady, 66 miles, and is open for traffic. The work of reducing the grades and curvature on the San Angelo branch of the Gulf, Colorado & Santa Fe between Temple and Coleman has been continued. Work between Temple and Lometa is about finished. An extension of the Fresno County Railway, built under the name of the Kings County Railway, from Wahtoke, Cal., to Piedra, 11 miles, and the Laton & Western, extending from Laton, Cal., to Lanare, 15 miles, have been opened for traffic and have been leased to the Santa Fe. An extension of the Sunset Western, northerly from Fellows, to Shale, has been constructed jointly with the Southern Pacific Co., 2.25 miles, and is now opened for traffic. At the close of the year there was in operation 687.58 miles of second-track, as compared with 526.95 miles at the close of the previous year, an increase of 160.63 miles, and second-track work is now under way as follows: Missouri division, Mendon, Mo., to Carrollton, 25.64 miles; lines west of Albuquerque, N. Mex., Rito to Laguna, 9.16 miles; McCartys to Horace, 10.82 miles; Flagstaff, Ariz., to Williams, 32.97 miles, and Supai to Fairview, 10.57 miles, a total of 89.16 miles. In addition to the above, second-track work has been authorized on the lines west of Albuquerque, N. Mex.; on about 40 miles near Needles, Cal., and extensive grade reductions and changes of line have been authorized preparatory to the construction of additional second-track between Albuquerque and Gallup. Most of this work will be finished by the close of the present fiscal year, when second main track in operation will approximate 816 miles.

Chicago & North Western.—The report of this company for the year ended June 30, 1911, shows that the elevation of the roadway and the main tracks in Chicago, from a connection with the Rockwell street line at Taylor street to the Sixteenth street line at Leavitt street, 0.81 mile, is about finished. The elevation of the main tracks, on the Milwaukee line through the city of Evanston, Ill., has been completed. Progress is being made in the elevation of the two existing main tracks, and the construction and elevation of four additional main tracks on the Galena division through the village of Oak Park, which adjoins the city of Chicago at its western limits. The work now under way to complete this improvement, consists of the construction and elevation of two additional main tracks from Austin avenue to Clinton avenue, 1.22 miles; the elevation of the two existing main tracks and the construction and elevation of four additional main tracks from Clinton avenue to Harlem avenue, 0.41 mile, and the construction of a retaining wall from Humphrey avenue to Harlem avenue, 1.27 miles. The company has undertaken the elevation of two existing main tracks and the construction and elevation of four additional main tracks through the villages of River Forest and Forest Park, on 1.43 miles. Work is now under way putting in additional track from Lake Shore Junction, Wis., to connect with the Milwaukee, Sparta & North Western near Lindwerm, 4.11 miles, and work is about finished on an additional track from West Allis to a connection with the Milwaukee, Sparta & North Western, 1.28 miles west of West Allis, including the revision of the grade and alinement of the existing main track. A single-track line has also been finished from a point about two miles north of Lake Shore Junction to Lindwerm, one mile. During the year a total of 136.06 miles of yard tracks, sidings and industrial spurs were added. Work is under way at the Proviso, Ill., yard, putting in 52.30 miles of yard tracks, which will increase the ca-

pacity of the yard to 4,967 cars, and a system of yard tracks with a capacity of 300 cars has been completed at Nelson. A terminal yard has been finished near Fulton, and work is under way at the Boone, Iowa, yards, constructing 17 miles of yard track, to increase the capacity of the yard to 1,400 cars. The existing yard tracks at Waseca, Minn., are being rearranged, and four additional yard tracks are being constructed, increasing the capacity of this yard 209 cars. At Tracy, a new freight yard, containing 3.75 miles of track, with a capacity of 400 cars, was constructed.

Satisfactory progress has been made during the year toward the completion of the following lines now under construction:

Des Plaines Valley, this is to be a double-track line from Blodgett, Ill., to a connection with the Wisconsin division, near Des Plaines, thence to a connection with the Galena division at Proviso, about 21 miles.

Milwaukee, Sparta & North Western, this line is being built from a connection with the Chicago & North Western near Lindwerm, Wis., to Sparta, 169.03 miles, where connection is being made with the Madison division, and from a connection with this line at a point about six miles west of Lindwerm, to a connection with the Milwaukee and Madison line near West Allis, 8.16 miles, in all, 177.19 miles. This mileage includes an existing branch between Necedah and Wyeville, 13.05 miles, which is being reconstructed, and will be used as part of the main line. At Butler, a terminal yard, to contain 21.10 miles of track with a capacity for 1,525 cars, is being constructed.

St. Louis, Peoria & North Western, this company was organized to build from a connection with the Chicago & North Western, near Peoria, Ill., to a connection with the Macoupin County Railway, near Girard, 90.4 miles, the right-of-way is now being secured. The line is to be built to provide access to the company's extensive coal fields in southern Illinois.

An extension of the Bonesteel-Dallas-Colome line has been completed from Dallas, S. D., northwest to Winner, 21.48 miles.

Chicago, Rock Island & Pacific.—An officer writes that the company is now relaying the present 65-lb. rail, with 85-lb. rail, between Mile Post 193 and Mile Post 235.3 on the Arkansaw division.

Chicago, St. Paul, Minneapolis & Omaha.—The report of this company for the year ended June 30, 1911, shows that the extension from Kennedy, Wis., to Kaiser, 4.93 miles, was completed and the line has been opened for traffic. Construction work has been started on the line from Black River Falls, to a connection with the main line at Vaudreuil, 2.23 miles. It is expected that this line will be completed and opened for traffic in the fall of 1911. Contracts have been let and work has been started on a new double-track line from Eau Claire, west for 3.18 miles, with a double-track bridge over the Chippewa, connecting with the old line at a point 1.25 miles east of Truax. It is expected that this line will be finished before the close of the next fiscal year. Second track is being constructed on 40.23 miles between Merrillan and Wyeville. In connection with this work a change will be made in the line and grade on 3.80 miles between Millston and Warren, shortening the distance 144 ft., eliminating two curves, reducing the curvature and grade. It is expected that the line will be opened for traffic during the fall of 1911. The net increase in the length of side and passing tracks during the year, was 6.64 miles, which includes 2.33 miles of track laid in the new yard north of Plymouth avenue, at Minneapolis, Minn.

Des Plaines Valley.—See Chicago & North Western.

Highland Park & Lake Burien.—A contract has been given to Dibble, Hawthorne & Co., Tacoma, Wash., at about $150,000, to build from Oxbow, to Lake Burien, about 7 miles. Reitz, Storey & Duffy are the engineers, Seattle. (September 8, p. 493.)

Memphis & Pensacola.—Financial arrangements have been made, it is said, to build from Pensacola, Fla., via Meridian, Miss., and Helena, Ark., to Memphis, Tenn. It is also said that some of the grading work has already been finished. W. P. Dickinson, Chicago; T. H. Jones, St. Louis, Mo.; C. H. Pond, Moorhead, Miss., and residents of Meridian, are back of the project.

Milwaukee, Sparta & North Western.—See Chicago & North Western.

Iowa, Nebraska & Dakota (Electric).—Incorporated in S. D., with $500,000 capital, and principal office at Pierre, to build an electric line from Valentine, Neb., east to Sioux City, Iowa, 225 miles, at an estimate cost of $100,000,000. The incorporators include C. H. Cornell, W. E. Haley and J. H. Bachleor, Valentine; W. Martens, C. Goldsmith, J. R. McKnight and A. P. Edgar, Pierre, S. D. The company proposes to utilize the water of the Niobrara and Keyapaha rivers for power to operate the line.

New York, New Haven & Hartford.—The report of this company for the year ended June 30, 1911, shows that work is being continued on the New York, Westchester & Boston. The plans call for a line from the Harlem river, at Willis avenue, New York City, through the borough of the Bronx to Mount Vernon, where the line diverges, one line is to extend north to White Plains and the other line east to the Connecticut state line at Port Chester. From the Harlem river to about 174th street, the company will operate over the tracks of the Harlem River & Port Chester, which will be completed so as to be available for such operation under rights granted to the New York, Westchester & Boston. Work on the line from 174th street, through Mount Vernon to New Rochelle, and on the line from Mount Vernon to White Plains is nearing completion. Operation over the lines from the Harlem river to New Rochelle, and on the line from Mount Vernon to White Plains is expected to be begun within the next six months. Of the total of 74.57 miles of track, the company owns 50.57 miles, and has perpetual rights to operate over 24 miles additional. The road is to be four-tracked from 174th street to Mount Vernon, where two tracks diverge to White Plains and two tracks to New Rochelle. There will be no grade crossings. The company has been given permission to build at 180th street and Morris Park avenue, in the borough of the Bronx, a transfer station, at which point interchange will be made with the West Farms branch of the Interborough Rapid Transit Company. Interchange will also be made with the Second and Third avenue elevated lines at Willis avenue. The plans also provide for interchange with the proposed Tri-borough route, either at the transfer station at 180th street, or at Westchester avenue. It is thought that with the completion of the Westchester Northern, which was organized in 1910 to build a connection from White Plains, northerly to Danbury, Conn., that this connection will make it practicable to interchange traffic to and from the Berkshire Hills, also with the New York, Ontario & Western, and other roads. On the Harlem river branch of the New Haven, between Harlem river and Oak Point, four tracks have been completed, and a re-arrangement of tracks, on account of reconstruction of the New York Connecting Railroad, will be required later. At Oak Point four miles of yard tracks for classification purposes and for serving the transfer bridges, have been provided. A double-track Y, connecting the Shore line with the Western division at Naugatuck Junction, Conn., has been completed and is now in service. The construction of second-track between Hawleyville and Shelton is now under way. The section between Hawleyville and Bottsford was to be placed in service as a double-track line about October 1, and it is expected that the work will be finished by June, 1912, between Bottsford and Shelton. At Brookfield Junction, the improvement of lines and grades and the elimination of nine grade crossings has been finished. Double-track work has been finished between Waterbury and Bristol, as well as on a 3,700-ft. tunnel, and seven grade crossings have been eliminated on this section. The double-track work between East Providence, R. I., and East Junction is progressing slowly, owing to difficulties in arranging for the elimination of some of the grade crossings. Work is now under way double-tracking between Providence and Fall River, Mass., as well as on the elimination of grade crossings at Worcester. At South Worcester a double-track connection between the Norwich & Worcester and the Providence & Worcester is being built. Double-track work between Walpole and South Framingham has been completed, and work is under way on the elimination of nine grade crossings, and the construction of third and fourth-tracks in Boston between Harrison Square and Atlantic and Savin Hill to Neponset. The double-track work between Cohasset and Greenbush has been finished and work on the elimination of the grade crossings at Lincoln and Plain streets in Lowell has been completed. The most important work being carried out by the electrical department includes the electrification for freight and passenger operation of the six-track Harlem River line, including the yards and sidings, and between Woodlawn, N. Y., and

Stamford, Conn., the electrification of the New York, Westchester & Boston, and the rehabilitation of the Warren power station with attendant increase in the capacity of the East Providence substation. The New Haven has acquired a half interest from the New York Central & Hudson River of the Rutland Railroad, which is to build a line between Swanton, Vt., and Alburg, connecting the Rutland Railroad with the St. Johnsbury & Lake Champlain. A further connection is planned between Stateline, on the Berkshire division of the New Haven, and New Lebanon, on the Rutland Railroad. The New Haven will join with the Pennsylvania Railroad in building the New York Connecting Railroad, which is projected through the boroughs of Brooklyn and Queens, New York City, and over the East river on a bridge to a connection with the New York, New Haven & Hartford, at Port Morris, on the Harlem river.

NEW YORK SUBWAYS.—A contract for the construction of section 15 of route 5 of the new subway system has been let to the Haggerty-Drummond Company, of Philadelphia, Pa., at $3,820,129. The section includes two branches. The west branch begins at the end of East 135th street and Mott avenue and runs to a point on private property on River avenue south of 157th street, with stations at East 138th and 149th streets. The east branch begins at the end of section 14 and extends under Park avenue, Canal street (Bronx), West and East 138th street to the center line of Alexander avenue, with a station between Third and Alexander avenues.

ST. LOUIS, PEORIA & NORTH WESTERN.—See Chicago & North Western.

ST. LOUIS SOUTHWESTERN.—The report of this company for the year ended June 30, 1911, shows that construction work has been continued on the Central Arkansas & Eastern. This line, which originally extended from England, Ark., to Gregor, 9.5 miles, has been extended from Gregor to Stuttgart, 18 miles, and from Rice Junction to Hazen, about 17 miles. The Stephenville North & South Texas, which had built 42.6 miles, from Stephenville, Tex., to Hamilton, when it was taken over by the St. Louis Southwestern, has been extended from Hamilton to Gatesville, the extreme southwestern terminus of the St. L. S. W. of T., 31.6 miles, and from Edson, near Hamilton, to Comanche, 31.5 miles.

SAN DIEGO SOUTHERN.—The electric division of this line from San Diego, Cal., to National City, 5.9 miles, is to be rebuilt, it is said. New 65-lb. rail will be laid on the line.

SAN BENITO & RIO GRANDE VALLEY.—This company is building in the lower Rio Grande valley, Texas, and has completed more than 50 miles. A contract for extending the line to Mission, thence north to the new town of Monto Cristo, 15 miles, has been let recently. Surveys are also being made for extending the road further up the valley into the coal fields of Zapata county, about 175 miles from San Benito. C. E. Ensminger, chief engineer, San Benito. (April 7, p. 878.)

SOUTHERN PACIFIC.—This company is said to have under consideration the question of building an extension from Marfa, Tex., north via Ft. Davis, towards Pecos City.

SOUTHERN RAILWAY.—The report of this company for the year ended June 30, 1911, shows that during the year the new double track line through Lynchburg, Va., was completed and put in service. A new double track line between Citico, Tenn., and Ooltewah Junction, has also been completed. A number of lap sidings to facilitate train movement at points where traffic is heavy, have been constructed, thirteen additional lap sidings are being put in at various places between Atlanta, Ga., and Macon, between Knoxville, Tenn. and Chattanooga, and three between Morristown, Tenn. and Ashfield, N. C.; the total length of which will be 28.4 miles. Work has been started on 38 miles of double track, north of Atlanta, Ga., between Crosskeys and Gainesville, the company has also undertaken the completion of the Knoxville Tennessee Belt Line river front extension, this work calls for the construction of about seven miles of track. Additional spur tracks to industrial plants were constructed during the year, aggregating 11.31 miles, and new side tracks constructed and extensions to existing tracks, amounting to about 14.72 miles. Additional yard and track improvements were carried out at Birmingham, Ala., North Birmingham and at Hamburg, S. C.

TALOGA, PUTNAM & SOUTHERN.—Incorporated in Oklahoma, with $100,000 capital to build from Chickasha, Okla., to Woodward, 150 miles. The incorporators include C. W. Musgrove, I. M. Willey, F. W. Darby, all of Taloga; C. S. Dunn, P. Skelton, C. Miller and W. M. Phelps, all of Putnam.

TIDEWATER & SOUTHERN.—A contract is said to have been given to Hahn & Son, Modesto, Cal., and work is now under way on a gap of four miles, near Stockton. This work is on the line now under construction from Modesto to Stockton. (May 5, p. 1185.)

TORONTO ROADS.—Bids are wanted by G. R. Geary, mayor and chairman of the Board of Control, up to November 1, 1911, for the construction of three miles of reenforced concrete subways and subway stations in Toronto, Ont.

RAILWAY STRUCTURES.

See an item in general news section, regarding the elimination of grade crossings at a number of towns in the state of New York, outside of Greater New York.

ASHLAND JUNCTION, WIS.—The report of the Chicago, St. Paul, Minneapolis & Omaha, for the year ended June 30, 1911, shows that work has been completed or is now under way on the following structures: New stations were completed at Ashland Junction, Wis., Mankato, Minn., and Jordan, Fordyce, Neb., and at South Sioux City. Work has been started on a new station at Craig, and a new brick passenger station was constructed at Sioux Falls, S. D., to replace the old station, which was removed to a new location and is now being used as a freight house. A brick freight house was constructed at Minneapolis, Minn.; the passenger station at New Richmond, Wis., and the combined freight and passenger station at Bayfield were remodelled and enlarged. A five-stall addition was made to the engine house at Altoona, and four stalls of the engine house at St. James, Minn., were extended 17 ft. Work is now under way on a 15-stall engine house, also a machine shop and oil house at Omaha, Neb., to replace buildings destroyed by fire. An addition was made to the engineroom and work is now under way on a 20-ft. addition to the passenger car shop at Hudson, Wis. Work is also under way on an addition to the machine shop at St. Paul, Minn. Water tanks were built at Osseo, Wis., at Chetek and at Hudson.

ATLANTA, GA.—The report of the Southern Railway for the year ended June 30, 1911, shows that work on the construction of a new in-bound freight station of modern type, at Atlanta, Ga., has been started and is expected to be finished in the early part of 1912. The upper floors will provide office accommodations for the company's forces at that place. Freight transfer facilities at the Inman yard (Atlanta) were finished and a large number of new station buildings and extensions to existing structures were also completed during the year. In connection with the Georgia Southern & Florida, an additional freight station and platform facilities are being provided at Macon, Ga., ested in the Kentucky & Indiana Terminal Railroad, which has made plans to build a new double track bridge over the Ohio river between Louisville, Ky., and New Albany, Ind., also to double track its belt line and improve and enlarge the terminal facilities in Louisville, Ky. A number of water and fuel stations, also some shop buildings, were constructed during the year at various points, and new boiler houses and store houses are being built at Spencer, N. C., and at Coster, Tenn.

BALTIMORE, MD.—Plans are being made by the officials of the city of Baltimore to build a steel bridge to have three spans over the tracks of the Baltimore & Ohio, in Baltimore. The estimated cost of the improvement will be between $40,000 and $50,000. The Board of Awards, Baltimore, may be addressed.

BINGHAMTON, N. Y.—The New York Public Service Commission, Second district, has ordered the elimination of the grade crossing on the Delaware, Lackawanna & Western at Conklin avenue in Binghamton. The highway is to be carried over the tracks of the railway from a point 500-ft. west of the crossing and in connection with the Mobile & Ohio, additional wharf facilities are being made at Mobile, Ala. These improvements consist of a wharf and two-story warehouse. The company is also interchanged location of the crossing. The railway company is to by an over-head bridge, and a new highway is to be built to the pay the entire cost of the improvements.

Buffalo, N. Y.—A viaduct is to be built on the Hamburg turnpike, over the tracks of the Buffalo Creek Railroad. The structure will be 300 ft. long, together with the necessary approaches. Plans for this improvement are now ebnig made. The New York Public Service Commission, Second district, has ordered crossings constructed at Elmwood avenue, and underneath the tracks of the Erie Railroad and the Delaware, Lackawanna & Western, This work is to be carried out by the railway companies.

Chicago.—The report of the Chicago & North Western for the year ended June 30, 1911, shows that the company's new passenger terminal in the city of Chicago was completed and opened for traffic on June 4, 1911; also that five modern passenger stations were built in the city of Evanston, and work is now under way on a passenger station at Oak Park. New passenger stations were built at Wheaton, Ill., Harvard, Ravinia and Hubbard Woods; Madison, Wis., Allis; Negaunee, Mich.; O'Neill, Neb., and at Aberdeen, S. D. At Wheaton, Ill., and Rockford, brick freight stations were put up, and the company's shop plant at Chicago was improved and enlarged by the construction of a 15-stall machine shop, a wheel and stripping shop, a transfer table and pit, and the installation of six electric traveling cranes. At Nelson, a 10-stall brick engine house, clinker pit and turntable were constructed. Improvements were carried out near Fulton, including a 58-stall engine house and other buildings, and work is under way at Boone, Iowa, on a 36-stall engine house, also a power house, machine shop and miscellaneous buildings. At Chadron, Neb., a 20-stall engine house and a brick shop building were put up, and work is now under way at Manitowoc, Wis., on a bituminous coal bridge 446 ft. long, and coal screening plant to be electrically operated also on a brick power house.

Cleveland, Ohio.—The Pennsylvania Lines West have let the contract to the Fort Pitt Bridge Company, Pittsburgh, Pa., for the grade separation work at Cleveland, involving about 5,000 tons of structural steel. (September 22, p. 574.)

New York.—The report of the New York, New Haven & Hartford for the year ended June 30, 1911, shows that permission has been granted to build a transfer station at 180th street and Morris Park avenue in the borough of the Bronx, New York City. On the Harlem River branch five stations have been renewed, and new stations were built at Westchester avenue and at Morris Park. Satisfactory progress has been made during the year in the construction of piers 39, 40 and 41 on the East river, and in Brooklyn a pier has been constructed and is now in service at North First street. The new six-track concrete bridge over Humphrey street, New Haven, Conn., is now in service, and at Cedar Hill there is under construction a new brick and concrete roundhouse containing 43 stalls, additions to the water supply, a locomotive coaling plant machine shop and storage facilities. Preliminary plans, incidental to the construction of a new passenger station at New Haven are in progress. This work necessitates changes to the gas, water mains and sewerage systems, and it is expected that this improvement will not be finished for several years. A new passenger station has been built at Terryville, Conn. An extension has been built to the freight house at New Bedford, Mass., and some increased freight facilities are expected to be finished about January 1, 1912. At Worcester an express building is to be built, also a steel viaduct, connecting the tracks of the Boston & Maine with the tracks of the New Haven. New coach, car and engine facilities at South Worcester are under construction and new passenger stations are being put up in Boston at Harrison Square, Popes Hill, at Neponset, and a shelter shed at Atlantic. Improvements are also being made to the power station at Warren, R. I., and at East Providence substation. Grade crossings have been eliminated as follows: In New York, one; Connecticut, 36; Rhode Island, one, and in Massachusetts, 17, a total of 55. A large number of new passenger stations and new freight houses were built and improved facilities were provided during the year, and further improvements are now under way at various places. A large number of new bridges were constructed or strengthened during the year.

St. Louis, Mo.—The St. Louis Southwestern has bought property in St. Louis as a site for a freight house, team tracks, etc. The old buildings on the property have been removed, and work is now under way on the improvements.

Railway Financial News.

Alberta Railway & Irrigation Company.—This subsidiary of the Canadian Pacific has called for redemption on January 1, 1912, its $3,250,000 5 per cent. debenture stock.

Boston Terminal Company.—This company has asked authority of the Massachusetts railway commissioners to issue $500,000 3½ per cent. bonds of 1897-1947.

Canadian Pacific.—See Alberta Railway & Irrigation Company.

Delaware & Eastern.—The New York Public Service Commission, Second district (state) has approved the plan of reorganizing this company as the Delaware & Northern. (September 22, page 578).

Delaware & Northern.—See Delaware & Eastern.

Erie.—Kissel, Kinnicutt & Co., New York, are offering $250,000 of the new $4,550,000 3-year 5 per cent. collateral trust notes of October 2, 1911, at 98⅝ to yield about 5.50 per cent. on the investment. These are the notes which are secured by the deposit of $4,000,000 first mortgage 4 per cent. bonds of the Erie & New Jersey; and $3,000,000 first mortgage 4 per cent. bonds of the Genessee River Railroad.

Florida Railway.—This company has filed suit to recover $6,000,000 alleged damages from the Seaboard Air Line, the Knickerbocker Trust Company and others. The Florida Railway claims that the Seaboard Air Line and the Knickerbocker Trust Company entered into a conspiracy several years ago when the company had plans for an extension and prevented these plans from being carried out.

Great Northern.—The New York Stock Exchange has authorized the listing of $20,000,000 first and refunding mortgage 4½ per cent. series A bonds, due 1961. The mortgage securing these bonds covers 7,429 miles of road.

Iowa Central.—See Minneapolis & St. Louis.

Macomb & Western.—This property was sold under foreclosure for $50,000 to the Chicago Wrecking Company. The legality of the sale, it is said, will be protested by creditors of the company. The road runs from Macomb, Ill., to Littleton, 26 miles.

Minneapolis & St. Louis.—Stockholders are to be asked to authorize an increase of $8,000,000 of the preferred stock and an increase of $9,000,000 of the common stock; and authorize a new issue of bonds amounting to $75,000,000 for refunding purposes and for new construction. The new bond issue is to be secured by a first lien on the Minnesota, Dakota & Pacific, which is to be taken over by the Minneapolis & St. Louis. It is not proposed to issue the new stock at once, but this proposition is made for future financing. A committee consisting of Edwin Hawley, Newman Erb and F. H. Davis are to confer with a committee consisting of T. P. Shontz, Frank Trumbull and J. J. Slocum, which was appointed by the Iowa Central to agree on terms of a lease of the Iowa Central to the Minneapolis & St. Louis.

Mississippi River & Bonne Terre.—A. G. Edwards & Sons, St. Louis, are offering the unsold portion of $2,500,000 first mortgage sinking fund 5 per cent. bonds of October 2, 1911-1931, of the Mississippi River & Bonne Terre at 101. The Mississippi River & Bonne Terre runs from Riverside, Mo., to Doe Run, 46 miles.

New Orleans, Mobile & Chicago.—Douglas, Fenwick & Co., New York, are offering the unsold portion of $250,000 first and refunding 5 per cent. bonds of 1909-1960 at 75, yielding about 6¾ per cent. interest on the investment. Of the total $35,000,000 of these bonds authorized, there are outstanding $11,598,000 subject to $34,000 underlying bonds.

Northern Pacific.—Thomas W. Lamont, of J. P. Morgan & Co., and George F. Baker, Jr., of the First National Bank of New York, have been elected directors, succeeding George W. Perkins and Alexander Smith Cochran, resigned.

Union Pacific.—Julius Kruttschnitt, director of maintenance and operation of the Harriman Lines, has been elected a member of the board.

ANNUAL REPORTS

SIXTEENTH ANNUAL REPORT OF THE ATCHISON, TOPEKA & SANTA FE RAILWAY COMPANY.

OFFICE OF
THE ATCHISON, TOPEKA & SANTA FE RAILWAY SYSTEM,
No. 5 Nassau Street, New York City.

SEPTEMBER 19, 1911.

To the Stockholders:

Your Directors submit the following report for the fiscal year July 1, 1910, to June 30, 1911, inclusive.

The Lines comprising the Atchison System, the operations of which are embraced in the following statements, are as follows:

	June 30, 1911.	June 30, 1910.
Atchison, Topeka & Santa Fe Railway	7,549.69 miles.	7,439.64 miles.
Rio Grande & El Paso Railroad	20.21 "	20.21 "
Gulf, Colorado & Santa Fe Railway	1,537.48 "	1,518.18 "
Eastern Railway of New Mexico	225.21 "	225.21 "
Pecos & Northern Texas Railway	296.12 "	225.29 "
Pecos River Railroad	54.24 "	54.26 "
Santa Fe, Prescott & Phoenix Railway	364.24 "	257.40 "
Southern Kansas Railway of Texas	124.92 "	124.92 "
Texas & Gulf Railway	96.14 "	96.14 "
Gulf & Interstate Railway of Texas	71.97 "	—
Concho, San Saba & Llano Valley Railroad	60.15 "	—
	10,400.37 "	9,961.25 "

Increase during the year 439.12 miles.

The average mileage operated during the fiscal year ending June 30, 1911, was 10,350.13 miles, being an increase of 433.80 miles as compared with the average mileage operated during the preceding fiscal year.

In addition to lines covered by this report there were completed on June 30, 1911, 242.64 miles of additional line, all of which will be ready for operation in the near future.

The Company also controls, through ownership of stock and bonds, other lines aggregating 101.78 miles and is interested jointly with other companies in 578.72 miles.

INCOME STATEMENT.

The following is a summary of the transactions of the System for the years ending June 30, 1910 and 1911:

	1910.	1911.
Total operating revenues	$104,993,194.67	$107,565,115.62
Income from other sources	2,550,055.49	2,207,366.07
Income from all sources	$107,543,250.16	$109,772,481.69
Expenses, including taxes, rentals and other charges	75,133,314.54	75,689.094.83
	$32,409,935.62	$34,083,386.86
Fixed charges, including accrued interest on Adjustment Bonds	11,984,151.36	12,712,319.31
Balance	$20,425,784.26	$21,371,067.55

From the net income for the year the following sums have been deducted:

DIVIDENDS ON PREFERRED STOCK—		
No. 25 (2½%) paid Feb. 1, 1911	$2,854,345.00	
No. 26 (2½%) paid Aug. 1, 1911	2,854,345.00	
	$5,708,690.00	
DIVIDENDS ON COMMON STOCK—		
No. 21 (1½%) paid Sept. 1, 1910	$2,482,777.50	
No. 22 (1½%) paid Dec. 1, 1910	2,482,777.50	
No. 23 (1½%) paid Mar. 1, 1911	2,482,777.50	
No. 24 (1½%) paid June 1, 1911	2,484,127.50	
	9,932,460.00	
Appropriation for Fuel Reserve Fund	414,139.59	
Appropriated for Additions and Betterments	5,000,000.00	
		21,055,289.59
Surplus carried to Profit and Loss		$315,777.96
Surplus to credit of Profit and Loss June 30, 1910	$20,231,803.67	
Additions to Profit and Loss Account	19,125.00	
		20,250,928.67
Surplus to credit of Profit and Loss June 30, 1911		$20,566,706.63

Income from sources other than earnings from operation consisted of interest on cash in banks and sums collected as interest and dividends upon bonds and stocks of companies, the operations of which are not included in the System accounts.

During the fiscal year the sum of $240,000 in cash was received as the net proceeds of sales of land embranced in the Santa Fe Pacific Land Grant, but this was directly written off the book value of Railroads, Franchises and Other Property, and the transaction does not appear in the Income Account.

CAPITAL STOCK AND FUNDED DEBT.

The outstanding Capital Stock (deducting stock in treasury) on June 30, 1910, consisted of:

Common	$165,518,500.00	
Preferred	114,173,730.00	
		$279,692,230.00
Issued during the year:		
Common Stock Issued in exchange for Convertible Bonds retired		2,912,000.00
Capital Stock outstanding June 30, 1911:		
Common	$168,430,500.00	
Preferred	114,173,730.00	
		$282,604,230.00

The outstanding Funded Debt of the System (deducting bonds in treasury) amounted on June 30, 1910, to $302,004,952.71

The following changes in the Funded Debt occurred during the year:

Obligations issued:		
Convertible 4% Bonds—Issue of 1909	$967,750.00	
Convertible 4% Bonds—Issue of 1910	29,307,617.29	
		$30,275,367.29
Obligations Purchased or Retired:		
Serial Debenture 4% Bonds,		
Series H	$7,000.00	
Series I	81,000.00	
Series J	105,000.00	
Convertible 4% Bonds	2,659,000.00	
Convertible 5% Bonds	253,000.00	
Miscellaneous Divisional Bonds	73,500.00	
		3,178,500.00
Increase of Funded Debt		$27,096,867.29
Total System Funded Debt outstanding June 30, 1911		$329,101,820.00

Interest charges for the year ending June 30, 1912, will be approximately $13,426,200, or an average monthly charge of about $1,118,850.

CAPITAL EXPENDITURES AND REDUCTION OF BOOK VALUES.

The total charges to Capital Account, as shown by the General Balance Sheet page 22, at June 30, 1911, aggregated $609,287,764.18 as compared with $577,180,953.11 at June 30, 1910, an increase during the year of $32,106,811.07 which analyzes as follows:

Construction and acquisition of new mileage, including the acquisition of bonds and stocks of other railway and terminal companies:

Atchison, Topeka & Santa Fe Ry.	$36,751.75	
Arizona & California Ry.	41,177.64	
Bradshaw Mountain R. R.	21,993.64	
Cane Belt R. R.	1,000.00	
Concho, San Saba & Llano Valley R. R.	191,668.94	
Eastern Ry. of New Mexico	3,468,483.50	
Fullerton & Richfield Ry.	86,362.34	
Garden City, Gulf & Northern R. R.	530,838.79	
Grand Canyon Ry.	27,111.94	
Gulf, Beaumont & Kansas City Ry.	70,440.00	
Gulf, Colorado & Santa Fe Ry.	1,724,535.66	
Houston Belt & Terminal Ry.	10,390.80	
Kings River Ry.	159,306.48	
Prescott & Eastern R. R.	64,803.68	
St. Joseph Terminal R. R.	24,640.10	
Santa Fe Dock & Channel Co.	618,124.86	
Sunset Western Ry.	33,289.94	
Texas & Gulf Ry.	6,909.23	
Wichita Union Terminal Ry.	2,500.00	
		$7,120,329.29
Additions and Betterments—System Lines:		
Right of Way, Station Grounds and Real Estate	$132,047.27	
Widening Cuts and Fills, including Protection of Banks	403,081.18	
Grade Reductions and Changes of Line	1,301,946.22	
Bridges, Trestles and Culverts	796,565.33	
Ballast, including cost of spreading and putting under track	1,145,989.38	
Increased Weight of Rail	448,209.97	
Frogs, Switches, Track Fastenings and Appurtenances	668,092.11	
Additional Main Tracks	3,757,569.85	
Sidings and Spur Tracks	639,709.04	
Terminal Yards	387,309.80	
Track Elevation, Elimination of Grade Crossings and Improvements of Over and Under Grade Crossings	191,778.93	
Interlocking, Block and Other Signal Apparatus	338,233.42	
Telegraph and Telephone Lines	206,801.03	
Buildings, Shops, Dock and Wharf Property	1,199,677.20	
Shop Machinery and Tools	179,673.01	
Additional Equipment	13,383,752.46	
Betterments to Equipment	52,957.60	
Other Additions and Betterments	633,230.62	
		25,866,624.42
Fuel Lands and Other Properties:		
Fuel Lands	$155,000.00	
Ice Plant, San Bernardino	69,010.18	
Tie and Timber Lands	85,904.23	
Real Estate held for future use	214,334.85	
Miscellaneous Items	163,778.20	
		688,027.46
Other Investments		803,867.41
Total Charges		$34,478,848.58
Reduction of Book Values:		
Cane Belt R. R.	$1,000.00	
Gulf & Interstate Ry. of Texas	7,479.00	
Gulf, Beaumont & Kansas City Ry.	72,500.00	
Santa Fe Pacific R. R.—Land Sales	240,000.00	
Santa Fe, Prescott & Phoenix Ry.	86,797.32	
Sunset R. R.	33,000.00	
Santa Barbara Tie & Pole Co.	29,348.42	
Texas Tie & Lumber Preserving Co.	27,749.57	
Reserve for Accrued Depreciation	1,874,163.20	
		2,372,037.51
Net Increase in Capital Account during the year		$32,106,811.07

MAINTENANCE OF EQUIPMENT.

The following statement shows the sums charged to Operating Expenses for Maintenance of Equipment during each year since July 1, 1896:

Year Ending June 30.	Average Operated Mileage.	Total Expenditure.	Expenditure Per Mile.
1897	6,443.81	$3,443,884.82	$534.45
1898	6,936.02	4,659,277.99	671.75
1899	7,032.62	4,810,795.64	684.07
1900	7,341.34	5,267,832.40	717.56
1901	7,807.31	6,257,456.57	801.49
1902	7,855.38	7,864,951.25	1,001.22
1903	7,965.13	8,510.543.09	1,068.48
1904	8,179.59	10,006,135.41	1,223.31
1905	8,305.40	10,914,864.47	1,314.19
1906	8,433.99	10,720,040.43	1,271.05
1907	9,273.15	11,779,846.64	1,270.32
1908	9,415.01	14,246,621.44	1,513.18
1909	9,794.86	13,903,897.37	1,419.51
1910	9,916.33	15,560,047.44	1,569.13
1911	10,350.13	16,686,145.45	1,612.17

For the year ending June 30, 1911, maintenance charges, including renewals and depreciation, averaged as follows:

Per locomotive	$4,544.54
Per locomotive mile	.1580
Per passenger car, including mail and express	1,158.10
Per passenger car mile	.0130
Per freight car	88.28
Per freight car mile	.0083

The foregoing average maintenance charges include a proportion of unlocated expenditures for Maintenance of Equipment charged to Superintendence, Shop Machinery and Tools, Injuries to Persons, Stationery and Printing, Other Expenses and Maintaining Joint Equipment at Terminals.

The following charges were made to Additions and Betterments in respect of additional equipment purchased and built during the year and in respect of payments made for equipment received during prior years:

90	Locomotives	$2,952,157.37
119	Passenger-Train Cars	1,343,894.63
8,753	Freight-Train Cars	10,606,499.40
154	Miscellaneous Cars	178,207.16
1	Ferry Boat	366,255.63
		$15,447,014.19

Less—Values of equipment retired during the year as follows:

22	Locomotives	$349,531.23	
20	Passenger-Train Cars	37,363.77	
2,519	Freight-Train Cars	1,655,114.86	
23	Miscellaneous Cars	18,066.87	
1	Car Float	3,185.00	
			2,063,261.73
			$13,383,752.46

A statement of the locomotives in service and of their tractive power will be found on page 37.

MAINTENANCE OF WAY AND STRUCTURES.

The following statement shows the sums charged to Operating Expenses for Maintenance of Way and Structures during each year since July 1, 1896:

Year Ending June 30.	Average Operated Mileage.	Total Expenditure.	Expenditure Per Mile.
1897	6,443.81	$6,282,923.15	$975.03
1898	6,936.02	8,281,397.88	1,193.97
1899	7,032.62	7,672,107.62	1,090.93
1900	7,341.34	6,354,372.10	865.56
1901	7,807.31	6,433,840.36	824.08
1902	7,855.38	6,141,466.39	781.82
1903	7,965.13	9,304,892.04	1,168.20
1904	8,179.59	9,170,234.07	1,121.11
1905	8,305.40	11,385,418.33	1,370.85
1906	8,433.99	12,475,407.97	1,479.18
1907	9,273.15	15,286,062.66	1,648.42
1908	9,415.01	14,120,828.02	1,499.82
1909	9,794.86	12,884,406.81	1,315.43
1910	9,916.33	17,807,136.20	1,795.74
1911	10,350.13	16,059,786.90	1,551.65

COMPARISON OF OPERATING RESULTS.

The following is a statement of revenues and expenses of the System for the fiscal year ending June 30, 1911, in comparison with the previous year:

	Year Ending June 30, 1911.	Year Ending June 30, 1910.	Increase or Decrease.
OPERATING REVENUES:			
Freight	$71,787,200.89	$71,194,055.59	$593,145.30
Passenger	27,204,867.66	25,437,181.98	1,767,685.68
Mail, Express and Miscellaneous	8,573,047.07	8,361,957.10	211,089.97
Total Operating Revenues	$107,565,115.62	$104,993,194.67	$2,571,920.95
OPERATING EXPENSES:			
Maintenance of Way and Structures	$16,059,786.90	$17,807,136.20	—$1,747,349.30
Maintenance of Equipment	16,686,145.45	15,560,047.44	1,126,098.01
Traffic Expenses	2,249,898.69	2,114,260.49	135,638.20
Transportation Expenses	33,183,520.09	31,821,825.23	1,361,694.86
General Expenses	2,588,900.44	2,458,550.52	130,349.92
Total Operating Expenses	$70,768,251.57	$69,761,819.88	$1,006,431.69
Net Operating Revenue	$36,796,864.05	$35,231,374.79	$1,565,489.26
Ratio of Operating Expenses to Operating Revenues	65.79	66.44	—.65

The following averages are deduced from tables set forth on pages 32 and 35.

The average tons of freight per loaded car mile decreased from 19.08 to 18.92, or .84 per cent.

The average tons of freight carried per freight-train mile increased from 388.80 to 400.35, or 2.97 per cent.

The average freight revenue per freight-train mile increased from $3.00 to $3.19, or 6.33 per cent.

The average passenger revenue per passenger-train mile was $1.21, or the same as in the previous year.

The average passenger-train revenue per passenger-train mile decreased from $1.53 to $1.51, or 1.31 per cent.

The tons of freight carried one mile (revenue and company) decreased 242,574,954, or 2.63 per cent., while freight-car mileage (loaded and empty) decreased 8,963,680, or 1.30 per cent., and freight-train mileage (freight and mixed) decreased 1,291,745.45, or 5.44 per cent.

The number of passengers carried one mile increased 32,100,551, or 2.60 per cent., while passenger-car mileage increased 6,175,217, or 4.91 per cent., and the passenger-train mileage (passenger and mixed) increased 1,509,636, or 7.19 per cent.

The following is a consolidated statement of the business of the System for each fiscal year during the period since January 1, 1896:

Fiscal Year Ending June 30.	Average Miles Operated.	Gross Revenues, Including Income from Other Sources.	Expenses, Including Taxes, Rentals and Other Charges.	Interest on Bonds.	Net Revenue.
1897 (18 mos.)	6,443.81	$44,532,628.99	$36,038,455.30	$8,440,387.91	$53,785.78
1898	6,936.02	39,396,126.41	30,513,553.17	7,045,988.30	1,836,584.94
1899	7,032.62	40,762,933.47	29,332,964.11	7,241,972.00	4,187,997.36
1900	7,341.34	46,498,899.04	29,414,427.56	7,345,166.50	9,739,304.98
1901	7,807.31	54,807,379.78	34,502,039.87	7,830,810.83	12,474,529.08
1902	7,855.38	60,275,944.33	36,272,432.45	8,438,985.00	15,564,526.88
1903	7,965.13	63,668,390.99	40,635,576.48	9,134,485.24	13,898,329.27
1904	8,179.59	69,419,975.41	44,641,434.10	9,418,770.00	15,359,771.31
1905	8,305.40	69,189,739.65	47,835,883.50	9,611,510.09	11,742,346.06
1906	8,433.99	79,390,749.05	51,035,355.71	10,622,184.22	17,733,209.12
1907	9,273.15	94,436,574.68	61,779,916.16	11,487,934.70	21,168,723.82
1908	9,415.01	91,289,770.61	65,031,582.67	12,579,301.77	13,678,886.17
1909	9,794.86	95,424,091.89	61,458,019.13	13,548,081.93	20,417,990.83
1910	9,916.33	107,543,250.16	75,133,314.54	11,984,151.36	20,425,784.26
1911	10,350.13	109,772,481.69	75,689,094.83	12,712,319.31	21,371,067.55

The following statement shows the gross operating revenues of the System (exclusive of income from other sources) per mile of road operated for each fiscal year since July 1, 1896:

Year Ending June 30.	Gross Operating Revenues.	Average per Mile of Road.
1897	$30,621,230.10	$4,752.04
1898	39,214,099.24	5,653.69
1899	40,513,498.63	5,760.80
1900	46,232,078.23	6,297,49
1901	54,474,822.61	6,977.41
1902	59,135,085.53	7,527.97
1903	62,350,397.28	7,827.92
1904	68,171,200.18	8,334.31
1905	68,375,837.25	8,232.70
1906	78,044,347.25	9,253.55
1907	93,683,406.91	10,102.65
1908	90,617,796.38	9,624.82
1909	94,265,716.87	9,624.00
1910	104,993,194.67	10,587.91
1911	107,565,115.62	10,392.63

The following statement shows the development of the freight and passenger revenues of the System since July 1, 1896:

Year Ending June 30.	Freight Revenue.	Passenger Revenue.
1897	$22,067,686.77	$5,574,288.31
1898	28,588,716.76	7,347,361.59
1899	29,492,586.65	8,126,141.85
1900	33,729,332.83	9,334,661.57
1901	39,052,557.43	11,678,017.25
1902	41,815,607.05	13,439,384.57
1903	44,622,438.71	13,469,985.78
1904	47,762,653.23	15,433,773.63
1905	47,408,982.36	16,045,380.27
1906	54,598,902.82	18,013,988.56
1907	65,500,309.42	21,171,629.08
1908	61,848,638.51	21,643,427.49
1909	64,212,638.10	22,734,505.32
1910	71,194,055.59	25,437,181.98
1911	71,787,200.89	27,204,867.66

TREASURY.

Neither this Company nor any of its auxiliaries has any notes or bills outstanding.

The Company held in its treasury on June 30, 1911, $36,204,747.06 cash, and had available $3,780,000 General Mortgage Bonds, including bonds not yet certified by the Trustee. The Company also has in the treasury unpledged a large amount of stocks and bonds of other companies, of which part are carried in the balance sheet as Investments and part are included under Railroads, Franchises and Other Property.

The remaining installments of principal subscriptions to Convertible Bonds, issues of 1909 and 1910, aggregating $30,275,367.29, referred to in the last annual report, were received during the year.

FUEL RESERVE FUND.

The fund has been increased during the year by earnings derived from certain fuel properties as follows:

Amount to credit of Fund June 30, 1910	$1,016,915.80
Added during the year	414,161.55
In Fund June 30, 1911	$1,431,077.35

WEST TEXAS CONSTRUCTION.

Reference to the construction of lines in West Texas was made in the last annual report. Of the line between Coleman and Lubbock there were completed and opened for traffic during the year 17.54 miles Lubbock to Slaton Junction. Rails between Coleman and Slaton Junction have been laid, and it is expected the entire line between Coleman and Lubbock will be completed and opened for traffic by November 1, 1911. The branch line, Slaton Junction to Lamesa, a distance of 54 miles, was completed and opened for traffic October 1, 1910, and the line Lometa to Eden, a distance of 98 miles, has been completed to Brady, a distance of 66 miles, and was opened for traffic September 11, 1911.

The work of reducing the grades and curvature of the San Angelo Branch of the Gulf, Colorado & Santa Fe Railway between Temple and

Coleman has been pushed throughout the year, the work between Temple and Lometa being practically completed. The improvement of this branch will facilitate the handling of traffic between points on or near the Gulf of Mexico and the Pacific Coast, for which traffic the line between Coleman and Lubbock, in connection with the railways of other companies comprised in the System, will afford a new trunk line.

The new West Texas mileage above referred to goes through a very important territory which as yet is almost entirely undeveloped. It is reasonable to anticipate that by virtue of this new mileage this part of the State of Texas will enjoy great development and that the system eventually will derive substantial benefit from such development and also from the new through business which it is believed will result from the opening of this new through line between the Pacific Coast and the Gulf of Mexico.

GARDEN CITY, GULF & NORTHERN RAILROAD.

This line, 38 miles in length, extending from Garden City, Kansas, on your main line, to Scott City, Kansas, the former terminus of the Great Bend Branch, was acquired during the year and is now being operated by The Atchison, Topeka & Santa Fe Railway Company as a part of the System, under lease dated July 1, 1911.

KINGS RIVER RAILWAY.

An extension of the Fresno County Railway from Wahtoke to Piedra, Fresno County, California, has been constructed during the year under the charter of the Kings River Railway Company. The extension is 11 miles in length and was completed and opened for traffic March 19, 1911, as of which date it was leased to The Atchison, Topeka & Santa Fe Railway Company and is operated as a part of the System.

LATON & WESTERN RAILWAY.

This line, extending from Laton to Lanare, Kings County, California, a distance of 15 miles, constructed during the year and opened for operation February 22, 1911, has been leased by your company for a term of 5 years with option of purchase at any time during that period.

SANTA FE DOCK & CHANNEL CO.

This company was organized during the year to take over and operate dock facilities at Port Bolivar, Texas, formerly owned by The Gulf & Interstate Railway Company of Texas.

SUNSET WESTERN RAILWAY.

An extension of this line in a northerly direction from Fellows to Shale, Kern County, California, to serve more adequately the Midway Oil Field, has been constructed jointly with the Southern Pacific Company. The extension is 2.25 miles in length and was completed and opened for traffic April 20, 1911.

ADDITIONAL MAIN-TRACK MILEAGE.

The mileage of second track in operation on June 30, 1911, was 687.58 miles as compared with 526.95 miles at the close of the preceding fiscal year, being an increase of 160.63 miles.

SECOND TRACK WORK IN PROGRESS:

MISSOURI DIVISION:	
Mendon to Carrollton, Mo.	25.64 miles.
LINES WEST OF ALBUQUERQUE:	
Rito to Laguna, N. M.	9.16 "
McCartys to Horace, N. M.	10.82 "
Flagstaff to Williams, Ariz.	32.97 "
Supai to Fairview, Ariz.	10.57 "
	89.16 "

In addition to the above, second track work has been authorized on the Lines West of Albuquerque for a distance of about 40 miles in the vicinity of Needles, California, and extensive grade reductions and changes of line have been authorized preparatory to the construction of additional second track between Albuquerque and Gallup. Most of this work will be completed by the close of the present fiscal year, when second main track in operation will approximate 816 miles.

The death of Mr. Paul Morton on January 19, 1911, deprived the Board and the stockholders and bondholders of this Company of a strikingly effective and valuable representative. Although only fifty-three years old he had spent thirty-eight years in active business life, and all that he achieved served to make singularly complete his training for the post of Director of this Company. His long railroad career, eight years of which were in the service of the Company as its Vice-President, gave him an intimate knowledge of its affairs and all aspects of the railroad problem, which with his integrity and soundness of judgment, gave to his directorship a value which cannot be overestimated.

Your Directors take pleasure in again recording their appreciation of Faithful and efficient service rendered by officers and employes.

EDWARD P. RIPLEY,
President.

NEW YORK, NEW HAVEN AND HARTFORD RAILROAD COMPANY—FORTIETH YEAR.

In accordance with the By-Laws of The New York, New Haven and Hartford Railroad Company, the Board of Directors have caused to be prepared a general statement of its affairs for the year ending June 30, 1911, as follows: (For earnings of the New Haven System see annexed statement.

FOR TWELVE MONTHS, JULY 1, 1910, TO JUNE 30, 1911, INCLUSIVE.

OPERATING REVENUE:		
Freight Revenue	$30,329,092.32	
Passenger Revenue	26,212,670.51	
All other Revenue from Transportation	4,200,645.74	
Revenue from Operations other than Transportation	1,411,026.23	
TOTAL OPERATING REVENUE		$62,153,434.80
OPERATING EXPENSES:		
Maintenance of Way and Structures	6,980,036.18	
Maintenance of Equipment	7,193,424.77	
Traffic Expenses	351,999.10	
Transportation Expenses	24,526,959.38	
General Expenses	1,846,213.20	
*TOTAL OPERATING EXPENSES		40,898,632.63
NET OPERATING REVENUE		21,254,802.17
NET REVENUE FROM OUTSIDE OPERATIONS		1,399,792.67
TOTAL NET REVENUE		22,654,594.84
TAXES		3,578,363.15
		19,076,231.69
INCOME FROM OTHER SOURCES:		
Dividends on Stocks	5,487,150.59	
Interest on Bonds	1,092,971.69	
Miscellaneous Income	1,832,316.30	
Rents Received	356,687.66	
Hire of Equipment	409,802.11	
TOTAL INCOME FROM OTHER SOURCES		9,178.928.35
TOTAL INCOME		28,255,160.04
DEDUCTIONS FROM INCOME:		
Interest on Bonds, Debentures and Other Liabilities	10,710,388.97	
Rentals of Leased Lines	4,478,324.32	
Rentals other than above	1,874,134.74	
Miscellaneous	5,000.00	
TOTAL DEDUCTIONS FROM INCOME		17,067,848.03
NET INCOME		11,187,312.01
DIVIDENDS NOS. 124 TO 127 INCLUSIVE, 2% EACH	10,222,598.00	
DIVIDENDS NOS. 3 TO 6 INCLUSIVE, ON PART PAID STOCK	2,232,254.00	12,454,852.00
DEFICIT		$1,267,539.99

*The Operating Expenses and Taxes were 71.56 per cent. of the Total Operating Revenue.

The increase of wages granted to employes, referred to in the General Statement for 1910, has added very materially to the cost of conducting the business and the expected partial offset to result from increases of freight rates failed of realization because of the refusal of the Interstate Commerce Commission to consent to such increases.

It was estimated that the advances in wages to employes effective with the beginning of the fiscal year of 1911 would aggregate $1,757,506.00. Compared with the wages paid in 1910 these advances have increased the operating expenses of 1911 by $1,521,513.42. If the same rate of wages had prevailed in 1911 as was paid in 1910 the ratio of operating expenses to revenue would have been 63.35 per cent., a little less than the ratio for 1910 and the deficit of $1,267,539.99 converted into a surplus of $253,973.43.

Your property has been well maintained during the year and is now in fine condition and capable of handling a very much larger volume of business than has so far been offered, in fact, any additional business within the range of reasonable expectation can be handled with economy and efficiency.

Deferring to the wishes of many investors, a combined income account and general balance sheet of all companies comprised in the New Haven System have been prepared, excluding only the New York, Ontario & Western, Boston and Maine and controlled lines and Maine Central and controlled lines, your interest in which has been treated as investments.

From this account it will be seen that had all of the surplus earnings of all of the companies for the fiscal year been turned into the treasury of your Company they would have failed by only $313,288.60 of meeting the New Haven dividend for the year.

The surplus earnings in the treasuries of subsidiary companies available for dividends were more than sufficient, if paid into the treasury of the parent company, to have met the deficiency of its earnings to pay its dividends, but your directors did not deem it advisable to deplete the treasuries of the subsidiary companies for that purpose.

The expenses of the combined companies include some of an extraordinary nature, it is believed may be avoided in the future. Among these may be mentioned the cost of the appraisal of the companies' properties in connection with the validation of the companies' securities claimed to have been issued in violation of the laws of the Commonwealth of Massachusetts; the trolley properties were found to have a large amount of equipment that had been carried upon their books for many years that was obsolete for their purposes, but was still in shape to be used in emergencies,—the value of which has been written off to the expenses for the year; the steamboat companies have sold and broken up boats that stood upon their books at very considerable valuations, which have been also written off in the year's expenses, so that the property of the companies stands upon their books at a much more conservative valuation than heretofore.

The interest during construction on the investment in the New York, Westchester and Boston Railway, the New York Connecting Railway, the Berkshire Street Railway, and the electrification work upon the Harlem River Branch, the double tracking of the Poughkeepsie Bridge line, none of which has reached a stage to make returns in earnings, has been included in the interest charges of the companies, (and not offset in any way by the securities eventually to be received, which will be available for sale), and the results from these investments and economies from these improvements, nearly all of which will be available during the next fiscal year, will be reflected in the statements for that and future years' operations.

It will be noted that many of the items that have made up the charges to the expense accounts for the past year, could have properly been charged to the profit and loss and investment accounts, and have thereby resulted in a surplus for the year instead of the deficit shown, but the net result to the property would have been unchanged.

In addition to the earnings shown in the general statement and combined statement, there were the following earnings from funds established by the Board of Directors, at the expense of the operating expense accounts of the past year and the accumulation of the surplus of such charges to accounts for previous years, as below, viz.:

Insurance Fund, see page "36"	$317,569.54
Accident and Casualty Fund, see page "38"	434,638.87
Coal Insurance Fund, see page "39"	9,815.82
Total	$762,024.23
Less decrease, the Marine Insurance Fund, see page "40"	15,255.38
Total	$746,768.85

Not since the disaster at Norwalk in 1853 has your Company experienced the misfortune of such a serious accident as that which occurred to one of its principal passenger trains at Bridgeport on July 11, 1911. Deplorable

as was this accident in the destruction of life and injury to person, a most thorough investigation by the Company has proven to its satisfaction that the accident was not due to any lack of provision as far as human foresight could make for the absolutely safe movement of trains supplemented by specific printed instructions for the government of employes. The cost of settlement of death and personal injury claims will impose no burden on the operating expenses as ample reserves have been made out of the income of previous years for just such a contingency through the establishment in 1906 of an Accident and Casualty Fund.

As yet your Company has received no return from its investment in the New York, Westchester & Boston Railway Company, although its income account has been charged with the interest upon the money required to be raised for the purpose.

Part of this investment is represented by $16,300,000 of bonds no part of the interest on which amounting on June 30, 1911, to $1,238,926.47 has been credited to income.

While notes have been given for this interest and for interest on advances amounting to a further sum of $58,465.29, or a total of $1,297,391.76, which notes will eventually be paid, your directors feel that it is in consonance with conservative accounting to defer the consideration of the crediting of this interest to the earnings of the Company until the money has actually reached the treasury.

Had this interest been available as a credit to earnings during the fiscal year of 1911, the deficit of The N. Y., N. H. & H. R. R. Co. proper, would have been converted into a surplus of $29,851.77, and the deficit of all companies into a surplus of $984,103.16.

The New York, Westchester & Boston Railway extends from the Harlem River about Willis Avenue, New York City, through the Borough of The Bronx and Westchester County to Mount Vernon, where the line diverges, one line extending north through Eastchester, New Rochelle, Scarsdale and White Plains; and the other line extending to the east through North Pelham, New Rochelle, Larchmont, Mamaroneck and Rye to the Connecticut state line at Port Chester. From the Harlem River to about 174th Street the railroad will be operated over the tracks of the Harlem River & Port Chester R. R. Co., which will be completed so as to be available for such operation, under a contract granting perpetual rights to the New York, Westchester & Boston Railway, which has received the approval of the Public Service Commission for the First District. From 174th Street through Mount Vernon to New Rochelle and the line from Mount Vernon to White Plains, the road is nearing completion and is being constructed upon its own private right of way. Actual operation over the lines from the Harlem River to New Rochelle and on the line from Mount Vernon to White Plains is expected to begin within the next six months. Of the total 74.57 miles of track, 50.57 miles are owned in fee, the Company having perpetual rights to operate over 24 additional miles.

The physical property of the New York, Westchester & Boston Railway is of the best of construction known to engineering science. The entire mileage is built to conform with the main line standard of The New York, New Haven and Hartford Railroad. The road is four-tracked from 174th Street to Mount Vernon, where two tracks diverge to White Plains and two to New Rochelle. The entire line will be fenced in private right of way and protected with block signals. There will be no grade crossings.

The Company has obtained from the City of New York and the Public Service Commission, the necessary rights to construct at 180th Street and Morris Park Avenue, Borough of The Bronx, a transfer station at which point interchange will be made with the West Farms Branch of the Interborough Rapid Transit Company. Interchange will also be made with the Second and Third Avenue Elevated lines at Willis Avenue. The plans of the Company also provide for the interchange with the proposed Tri-Borough route, either at the transfer station at 180th Street, or at Westchester Avenue. The third tracking of the Second and Third Avenue Elevated Systems will give fast express service to and from all points in the Borough of Manhattan. The connection via the transfer station and via the Second and Third Avenue Elevated Lines at Willis Avenue offers rapid transit in connection with those lines to and from the west side, centre, and east side of Manhattan.

The territory served forms one of the most desirable and rapidly growing residential sections in and adjacent to New York City. Between 1900 and 1910 the population of the Borough of The Bronx increased from 200,507 to 430,980, or 115%, and the population of Westchester County from 184,257 to 283,000, or over 53%. In addition to the income to be derived from the transportation of passenger and freight in this already large and rapidly growing section, it is believed that with the completion of the Westchester Northern Railroad, which was organized in 1910, and is authorized to construct from a point of connection at White Plains, northerly through the towns of Harrison, North Castle, Bedford, Pound Ridge, Lewisboro and North Salem in the County of Westchester and the town of South East in the County of Putnam, and through the towns of Greenwich, Ridgefield and Danbury, in the State of Connecticut, to pjoints of connection with The New York, New Haven and Hartford Railroad, these earnings will be largely increased, inasmuch as this extension will make it practicable to interchange traffic to and from the Berkshire Hills, shortening the distance and time materially. It also makes it possible to interchange traffic with the New York, Ontario & Western Railway and other roads similarly located, with a more direct all rail delivery of coal and general merchandise to all points reached.

By authority of the Public Service Commission of New York, Second District, the New York, Westchester & Boston Railway Company has canceled its old mortgages and created a new mortgage dated July 1, 1911, maturing July 1, 1946, under which the total amount of bonds which can be outstanding at any time shall not exceed $60,000,000; but no bonds can be issued in excess of the $17,200,000 at present issued, except against additional construction, betterments or improvements to the property of the railroad.

This entire issue of $17,200,000 was delivered to The New York, New Haven and Hartford Railroad Company in exchange for the old bonds held by it; your Company has endorsed its guaranty of principal and interest on the bonds and has sold them at a satisfactory price.

HARLEM RIVER BRANCH: Six tracks with automatic signals have been completed, and are in service between Oak Point and New Rochelle Junction.

Between Harlem River and Oak Point four tracks are completed; rearrangement of tracks on account of construction of the New York Connecting Railroad will later be required.

There are eleven (11) stations on the line, five of which have been renewed. At the following points the old stations are still in service: Casanova, West Farms, Van Nest, Westchester and Baychester. A new station has been built at Westchester Avenue, no station having been in existence previously. At Morris Park a new station has been built.

At Oak Point four miles of yard tracks have been provided for classification purposes and for serving the transfer bridges.

NEW YORK CITY: Satisfactory progress has been made in reconstruction of piers 39, 40 and 41, East River. Pier 39 is completed, and has been in service since October, 1910; work in connection with piers 40 and 41 is progressing favorably, and they should be in service by October 30th, next.

BROOKLYN, N. Y.: A pier has been constructed and is in service at North First Street, Brooklyn; providing a terminus for freight distribution in connection with car float service to New York.

NAUGATUCK JUNCTION: A double-track wye connecting the Shore Line with the Western Division at Naugatuck Junction has been completed and is in service, materially improving the operating facilities at that point, and replacing a single-track connection.

HAWLEYVILLE TO SHELTON: The construction of a second track between Hawleyville and Shelton is progressing favorably, and that portion of the line between Hawleyville and Botsford will be in service as a double-track on or about October 1st, next. The double-track work between Botsford and Shelton is making satisfactory progress, and should be in service as of June 1st, 1912, affording necessary advantages for freight and passenger movement between New Haven, Poughkeepsie bridge and the Berkshire Hills country.

BROOKFIELD JUNCTION: The improvement of lines and grades and the elimination of grade crossings at Brookfield Junction is completed and in service, in which nine grade crossings have been eliminated.

NEW HAVEN AND CEDAR HILL: The new six-track concrete bridge over Humphrey Street has been completed, and is in service.

There is under construction at Cedar Hill a new brick and concrete roundhouse, containing 43 stalls, together with such appurtenances as water supply, locomotive coaling plant, machine shop and storage facilities. The completion of this plant will require from six to eight months; the roundhouse, however, will be ready for use on or about January 1st, 1912.

Preliminary plans and rearrangements incidental to construction of a new passenger station at New Haven are in progress. To permit construction of the new station it will be necessary to relieve the streets which will be occupied by the new station facilities of the gas and water mains and sewers before actual construction of the station can be undertaken. A new sewer is now under construction in Union Avenue, and is the first step towards preparing the location at which the new station is to be constructed.

The magnitude of this work is such it is not expected it will be completed for several years.

WATERBURY TO BRISTOL: Double-track work between Waterbury and Bristol, and construction of a tunnel 3,700 feet in length, have been completed. There have been eliminated within this territory seven grade crossings. A new passenger station has been constructed at Terryville, Conn., and the line has now been in service for five months.

NIANTIC TO BACK BAY—STONE-BALLASTING: There have been laid during the year three and one-half miles of four-track stone-ballasting, and eight miles of double-track stone-ballasting, making a decided improvement over the completed portion of the line.

EAST PROVIDENCE TO EAST JUNCTION DOUBLE-TRACKING: Work of double-tracking this line is progressing slowly, owing to difficulties in arranging for the elimination of some of the grade crossings, negotiations for which are in progress, and matters will doubtless be in form to permit proceeding with the work by November 1st, next.

PROVIDENCE TO FALL RIVER DOUBLE-TRACKING: Construction of double track over a portion of the line is under way, and satisfactory progress is being made. The work in general consists of an enlargement of the Warren power station and East Providence sub-station, and second track on two sections between Warren and Bristol, in order to afford facilities for handling the heavy and rapidly increasing traffic.

NEW BEDFORD, MASS.: Increased business at New Bedford required extension of the freight house at that point. Work was undertaken and the frieght house has been completed. There is also under construction increased bulk freight facilities, which will be completed about January 1st, 1912.

WORCESTER, MASS.: Elimination of grade crossing under decree of the Court has been progressing during the year; express building to be erected by this company is completed and in service, as is also the steel viaduct connecting the tracks of the Boston & Maine Railroad with the tracks of the New Haven Railroad. A concrete interlocking tower has been built. New coach yard and engine facilities at South Worcester are under construction, and a double-track connection between the Norwich & Worcester and the Providence & Worcester is under way, and will be completed about October 1st, next. Work in connection with elimination of grade crossings, under decree of the Court, will be completed as of January 1st, 1912.

WALPOLE TO SOUTH FRAMINGHAM DOUBLE-TRACKING: Double-tracking between the above-mentioned points is completed and in service, relieving traffic between Fitchburg, Lowell and New Bedford, which line is heavily congested.

BOSTON—HARRISON SQUARE TO ATLANTIC AND SAVIN HILL TO NEPONSET—ELIMINATION OF GRADE CROSSINGS, UNDER DECREE OF THE COURT, AND CONSTRUCTION OF THIRD AND FOURTH TRACKS: This work is progressing satisfactorily, and should be completed as of January 1st, 1912, in which nine grade crossings will be eliminated. New passenger stations at Harrison Square, Pope's Hill, Neponset, and shelter shed at Atlantic are under construction. There is also under construction a concrete interlocking tower at Harrison Square.

COHASSET TO GREENBUSH: Double-track work is completed and in service.

LOWELL, MASS.: Elimination of Lincoln and Plain Street grade crossings has been completed under decree of the Court, and the crossings are now in service.

The most important pieces of work that have been under prosecution by the Electrical Department during the past fiscal year are:

(1) The electrification for freight and passenger operation of the six-track Harlem River road, inclusive of yards and sidings on this line and between Woodlawn and Stamford.

(2) The electrification of the New York, Westchester & Boston Railway.

(3) The rehabilitation of Warren Power Station, with attendant increase in the capacity of East Providence Sub-station.

ELECTRIFICATION OF THE HARLEM RIVER SIX-TRACK ROAD.

Beginning April 1st, ground was broken for the installation of catenary piers, and the work is now well under way.

Four types of electric road engines are in operation, handling either passenger or freight trains.

We have received an electric switch engine based upon specifications that covered our heaviest switching practice in the Harlem River Branch Yards, and it is at present doing duty in the Stamford Yards. Fifteen electric switching engines of practically similar type, modified only slightly in mechanical and electrical characteristics from experienec received with the present engines, are on order.

Orders for four all-steel motor cars and twelve trail cars for multiple unit service have been placed.

The extension of Cos Cob station for the purpose of supplying power to the Harlem River Branch and New York, Westchester and Boston Railway and for sub-station plants with motor driven street railway generating apparatus in the vicinity of our electric zone, has been authorized; it being the intention to install four 4,000 k.w., 80% power factor, single phase, 11,000-volt, 25-cycle turbo generators, with necessary auxiliary steam equipment for operation.

The New York, Westchester & Boston Electrification.

This property, consisting of a four-track system between West Farms and Mt. Vernon, and two tracks from there on to White Plains, with a branch connection of two tracks to a point on our main line just east of New Rochelle, will be electrified by an overhead system conforming practically in all details to that of our Harlem River Branch Electrification. The work of pier installations for the catenary bridges was started in October, 1910, and is practically completed for the four-track section, together with the two-track branch connection above referred to. The route between Mt. Vernon and White Plains having not yet been fully graded, only a small percentage of the foundations have been installed between these two points.

Rehabilitation of Warren Power Station, with Attendant Increase of Capacity in the East Providence Sub-Station.

In order to increase the capacity of the Warren Power Station and place it upon a straight alternating current basis, rather than a division of electric generation between A. C. and D. C., a 300 k.w. turbo generator has been ordered, with necessary switchboard and exciter equipment, and its installation will be completed by the end of this month. The old direct current engines, which are badly depreciated, will be removed and the two 750 k.w. steam turbines which have been serving for a number of years will be overhauled and new windings applied to their generator parts.

Number of Grade Crossings Eliminated.

State of New York	1
State of Connecticut	36
State of Rhode Island	1
State of Massachusetts	17
Total	55

New Passenger Stations or Improved Facilities have been provided during the year at the following points:

New Stations.

Cedar Hill, Conn.	East Providence, R. I.	South Windsor, Conn.
Charles River, Mass.	Foxboro, Mass.	West Barnstable, Mass.
East Hampton, Conn.		

Improved Facilities.

Bartow, N. Y.	Harlem River, N. Y.	Pelham, N. Y.
Berlin, Conn.	Hartford, Conn.	Pemberton, R. I.
Bethel, Conn.	Highland, Mass.	Port Chester, N. Y.
Bristol, Conn.	Leominster, Mass.	Providence, R. I.
Canaan, Conn.	Litchfield, Conn.	Rowayton, Conn.
Collinsville, Conn.	Meriden, Conn.	Sheffield, Mass.
Congamond, Mass.	Millvile Heights, Mass.	Southbridge, Mass.
East Dedham, Mass.	Mystic, Conn.	South Hanover, Mass.
East Greenwich, R. I.	Naugatuck, Conn.	Stockbridge, Mass.
Esmond, R. I.	Needham, Mass.	Wallingford, Conn.
Fairhaven, Mass.	New Britain, Conn.	West Chatham, Mass.
Fall River, Mass.	New Rochelle, N. Y.	West Hanover, Mass.
Hanover, Mass.	Norwalk, Conn.	West Haven, Conn.

New Passenger Station or Improved Facilities upon which work is under way, and will be completed during the ensuing year:

New Stations.

Bartow, N. Y.	Harrison Square, Mass.	Pope's Hill, Mass.
Esmond, R. I.	Highland Lake, Mass.	Sound View, Conn.
Farm St., Mass.	Milton, Mass.	Southbridge, Mass.
Guilford, Conn.	Neponset, Mass.	Terryville, Conn.

Improved Facilities.

Atlantic, Mass.	Clicquot, Mass.	New Preston, Conn.
Bethel, Conn.	Crescent Park, R. I.	North Bellingham, Mass.
Bridgeport, Conn.	Larchmont, N. Y.	Norwood, Mass.
Caryville, Mass.	Medway, Mass.	Whitman, Mass.

New Freight Houses or Increased Freight Facilities have been provided during the year at the following points:

New Stations.

Bethel, Conn.	South Windsor, Conn.	West Hanover, Mass.
Pratts Junction, Mass.	Wallingford, Conn.	

Improved Facilities.

Andover, Conn.	Leominster, Mass.	Rowayton, Conn.
Broad Brook, Conn.	Midway, Conn.	Rye Street, Conn.
Buckland, Conn.	Milford, Mass.	Sheffield, Mass.
Congamond, Mass.	Mount Vernon, N. Y.	Sterling, Mass.
Dighton, Mass.	New Bedford, Mass.	Summit, R. I.
Ellington, Conn.	New Canaan, Conn.	Tremont, Mass.
Fitchburg, Mass.	North Dighton, Mass.	Uxbridge, Mass.
Foxboro, Mass.	Norwich, Conn.	West Barnstable, Mass.
Harlem River, N. Y.	Plymouth, Mass.	West Falmouth, Mass.
Hartford, Conn.	Portland, Conn.	Wollaston, Mass.
Lenoxdale, Mass.	Putnam, Conn.	

New Freight Houses or Increased Freight Facilities upon which work is under way, and which will be completed during the ensuing year:

New Stations.

Esmond, R. I.	Providence, R. I.	Woonsocket, R. I.
Larchmont, N. Y.		

Improved Facilities.

Allyns Point, Conn.	Harrison Square, Mass.	Neponset, Mass.
Ansonia, Conn.	Mansfield, Mass.	New Bedford, Mass.
Bridgeport, Conn.	Middleboro, Mass.	New Preston, Conn.
Harlem River, N. Y.	Milton, Mass.	

New Turntables have been installed during the year at the following points:

Cedar Hill, Conn. (1 complete; 1 under construction). Westfield, Mass.

Signal and Interlocking Improvements and Additions have been made during the year at the following points:

Berlin, Conn.	Harrison, N. Y.	Port Chester, N. Y.
Brookfield Jct., Conn.	Hartford, Conn.	Providence, R. I.
Canton Junction, Mass.	Hawleyville, Jct., Conn.	South Boston, Mass.
Cedar Hill, Conn.	Manchester, Conn.	South Framingham, Mass.
Concord Junction, Mass.	Medfield, Mass.	South Norwalk, Conn.
Cumberland Mills, R. I.	Middleboro to Buzzards Bay.	Wallingford, Conn.
East Bridgeport, Conn.	New Haven, Conn.	Warren to Bristol, R. I.
East Hampton, Conn.	New London, Conn.	Westerly, R. I.
East Lyme, Conn.	North Scituate, Mass.	Westport, Conn.
East River, Conn.	Oak Point, N. Y.	Wickford Junction, R. I.
Guilford, Conn.		Windsor, Conn.

New Bridges, both Track and Overhead, Bridge Repairs, Strengthening and Renewals, to permit heavier loading have been made as follows:

Avon, Conn.	North Newtown, Conn. 2
Boston Switch to Valley Falls 2	North Scituate, Mass.
Brookfield Junction 6	Orange, Conn. 2
Clark's Corner, Conn.	Providence to Willimantic.
Clinton, Conn.	Plainville, Conn., to Westfield, Mass.
Concord, Junction, Mass.	Redding, Conn.
Dedham Road, Mass.	Sandy Hook, Conn.
Deerfield, Mass.	Saybrook Junction to Middletown, Conn.
Framingham to Mansfield	
Groton, Conn., to Plainfield, Conn. (entire work not done)	Shelton to Hawleyville. (9 done, others in progress.)
Harrison Square to Neponset, Mass. 10 (approaching completion)	Somerset Junction, Mass.
	South Bay, Mass.
Hartford, to Bristol, Conn.	South Framingham to Walpole
Jewett City, Conn.	Truro, Mass.
Lowell, Mass.	Upper Falls, Mass.
Middletown, Conn. 2	Walpole, Mass. 3
Marshfield, Mass.	Warren, R. I.
Middletown to Hartford 10 (entire work not done)	Weatogue, Conn.
	West Mystic, Conn. 2
Mount Bowdoin, Mass.	Willimantic, Conn.
Naugatuck Junction, Conn.	Windsor, Conn.
New Bedford, Mass.	Worcester, Mass. 5
New Haven, Conn.	

Additional Protection Against Fire Hazard has been provided at the following points:

Brockton, Mass.	Manchester, Conn.	Providence R. I. (gas plant).
Harlem River, N. Y.	New Bedford, Mass.	
	Pawtucket, R. I.	Seymour, Conn.

Water barrels have been placed on all track bridges more than fifty feet long. All section houses and roadway buildings have also been equipped.

Commercial Sidetracks.

A large number of sidetracks to serve industries along the Company's lines have been installed during the year.

Creosoted Ties, Tie Plates and Screw Spikes.

Total number of ties (all kind) laid during the year	1,798,456
" " " creosoted, provided with tie plates and screw spikes, laid during the year between New Haven and Woodlawn and on the Harlem River Branch	88,466

Rail.

There have been laid in main tracks during the year, in both maintenance and construction, 10,227 tons of 100 pound rail, and 18,628 tons of 80, 79, 78, 74, 68 pound and 90 pound rerolled rail.

With the completion of the improvement work now in progress it is expected that similar future expenditures will not be excessive unless the growth of business overtaxes the facilities.

New Equipment to the value of $5,987,555.82 has been purchased during the year, consisting of ten switch and two passenger locomotives, two freight and one switch electric locomotives, twenty-one sleeping cars, twenty-three parlor cars, thirteen baggage cars, 2,575 box cars, 1,497 coal cars, two derricks, two pile drivers and two steam shovels.

This amount also includes the cost of converting thirty-two passenger cars into cabooses and work equipment.

The above amount was disposed of as follows:

To Equipment	$5,600,360.68
To Replacement Fund	387,195.14

Your Company on account of its large financial interest in the securities of the Central New England Railway Company advanced to that company the necessary funds to enable it to call for redemption the 5 per cent. bonds secured by the First Mortgage upon its property dated January 23, 1899, and gave its assent to an application by the Central New England Company to the Public Service Commission of New York for the Second District for authority to make a new first mortgage bearing 4 per cent. interest to repay this advance, and to refund its floating debt and underlying mortgage and other bonds. The authority was granted and a new first mortgage was made dated January 1, 1911, and bonds thereunder to the amount of $11,967,000 issued of which $11,927,000 passed into the treasury of your Company in exchange for the various forms of indebtedness of the Central New England Railway Company held by your Company. The effect of this substitution of a single issue of new first mortgage bonds bearing 4 per cent. interest for various kinds of bonds bearing higher rates of interest was to save the Central New England Company a considerable yearly interest charge and to give your Company a bond more readily marketable than the forms of indebtedness previously held.

Your Company has endorsed its guaranty of principal and interest on these new first mortgage bonds and has sold the bonds at a satisfactory price.

The earnings of the Central New England Company will be sufficient to pay the interest on these bonds so that there need be no apprehension of a recourse to the guaranty of your Company.

The funded debt of the Central New England Railway Company now consists of:

First Mortgage 4 per cent. bonds of January 1, 1911.... of which $20,000 are in the treasury of The N. Y., N. H. & H. R. R. Co., and $11,927,000 are in the hands of the public.	$11,947,000.00,
First Mortgage 4½ per cent. bonds of Dutchess County Railroad Company of which $63,000 are in the treasury of The N. Y., N. H. & H. R. R. Co., and $287,000 are in the hands of the public.	350,000.00,
General Mortgage Income Bonds of which $608.50 scrip is in the treasury of The N. Y., N. H. & H. R. R. Co. and $18,000 and $1,391.50 scrip are in the hands of the public. Funds for the payment of these bonds and interest thereon to their due date have been deposited with the Trustee in consideration of the release of the mortgage.	20,000.00,
Total	$12,317,000.00

The capital stock of the Company consists of:

Preferred—37,500 shares of which The N. Y., N. H. & H. R. R. Co. owns 37,025 shares and $82.89 scrip and 474 shares and $17.11 scrip are in the hands of the public.	$3,750,000.00,
Common—48,000 shares of which The N. Y., N. H. and H. R. R. Co. owns 47,511 shares and $103.89 scrip and 487 shares and $96.11 scrip are in the hands of the public	4,800,000.00,
Total	$8,550,000.00

The capital stock of the Company has been increased during the year by the addition of 569,204 shares ($56,920.400); 446,492 shares ($44,649,200) being new stock issued under authority of the special meeting of the Stockholders held October 27, 1909, referred to in the General Statement for 1910; and 122,712 shares ($12,271,200) issued in exchange for $18,406,800 face value of 3½% Convertible Debenture Certificates of the issue of January 1, 1906. There still remain in the treasuries of subordinate companies 214,713 shares.

The capital stock of the Old Colony Railroad Company has been increased during the year by the sale of eight thousand (8,000) shares, the proceeds of which have been applied toward the reimbursement of expenditures for betterments by your Company.

The outstanding indebtedness of the Company and its leased lines, in the hands of the public, has been decreased during the year by the amount of $3,867,713.23, as follows:

DECREASES.	
Woonsocket & Pascoag R. R. Co. 1st Mortgage 5% Bonds paid	$100,000.00
Farmington Street Railway Company 5% Debentures paid	30,000.00
New Haven & Northampton Company 5% Northern Extension Bonds paid	700,000.00
5% Three Year Debentures paid	10,000.00
5% Four Year Debentures paid	1,339,000.00
4½% Three Year Debentures paid	2,000,000.00
3½% Convertible Debenture Certificates exchanged for Capital Stock	18,406,800.00
Real Estate Mortgage paid	11,500.00
Boston & New York Air Line Scrip paid	8.73
4% Notes paid	3,260,404.50
4½% Notes paid	500,000.00
	$26,357,713.23
INCREASES.	
4½% Notes	$22,490.000.00
NET DECREASE	$3,867,713.23

There will mature between October 1, 1911, and October 1, 1912, the following obligations for which this Company is responsible:

October 1, 1911—Meriden Horse Railroad Company 5½ First Mortgage Bonds	$85,000.00
January 1, 1912—5% Five Year Debentures	300,000.00
January 9, 1912—5% Five Year Debentures	6,400,000.00
January 10, 1912—4½% One Year Notes	2,000,000.00
January 25, 1912—4½% One Year Notes	490,000.00
February 1, 1912—4½% One Year Notes	10,000,000.00
February 2, 1912—4½% One Year Notes	100,000.00
March 1, 1912—4½% Notes	10,000,000.00
September 1, 1912—Roxbury Central Wharf Company 5% First Mortgage Gold Notes	290,000.00
	$29,665,000.00

The funds are in hand with which to pay these obligations.

A new lease of the property of the Chatham Railroad Company was made effective as of January 1, 1911, for a term of eighty-one years and two months. This lease supersedes one originally made to the Old Colony R. R. Co. January 5, 1888, and an amendment thereto dated June 16, 1905, and substitutes a specific rental for one based on gross earnings.

By a decree of the Supreme Judicial Court of the Commonwealth of Massachusetts, the conveyance of the Park Square Station property in the City of Boston, to the Park Square Real Estate Trust was declared to be invalid; the property has, therefore, been turned back to the company and now appears as a real estate asset in its General Balance Sheet.

On June 15, 1910, the General Court of the Commonwealth of Massachusetts approved an Act authorizing the issue of preferred stock (without voting power) of Boston Railroad Holding Company in exchange for its four per cent. Fifty Year Debentures.

As the preferred stock was under the Massachusetts laws free from taxation in the hands of holders, which the debentures were not, your directors deemed it advisable to accept this authority and accordingly the debentures of the face value of $20,012,000 owned by your Company, were on January 10, 1911, exchanged for 200,120 shares of preferred stock; 28,000 of these shares have been sold and in accordance with the requirement of the Act authorizing the issue your company has endorsed upon the certificates its guaranty of the payment of a cumulative dividend at the rate of 4 per centum per annum on each share of stock and of one hundred dollars upon each share of stock in case of liquidation or distribution of Boston Railroad Holding Company and of any deficiency resulting from a sale under the provisions of Section 4 of Chapter 639 of the Acts of Massachusetts of the year 1910.

Your Company's investment in Boston Railroad Holding Company now consists of 31,065 shares of common stock, the entire issue, and 242,544 shares of preferred stock out of a total of 270,544. The Boston Railroad Holding Company investment in Boston & Maine Railroad now consists of 219,189 shares of common stock out of a total of 395,050 (full and part-paid), and of 6,543 shares of preferred stock out of a total of 31,498.

Owing to the reduction of the dividend paid on the common stock of the Boston & Maine Railroad from 6 per cent. to 4 per cent., the return during the coming year upon your Company's present investment in the Holding Company will be about 3 per cent.

There has been acquired in your interest from the New York Central and Hudson River Railroad Company, one-half of its holdings of the preferred stock of the Rutland Railroad Company amounting to 23,520½ shares, the holdings of the two companies constituting a majority of the total capital stock.

While it is not expected that this purchase will make material direct returns it should result in substantial advantage to the Boston & Maine Railroad when connection is made between Swanton and Alburgh, Vermont, connecting the Rutland Railroad at Alburgh with the St. Johnsbury and Lake Champlain Railroad, controlled by the Boston & Maine through its lease of the Boston and Lowell Railroad, at Swanton. The opening up of this new connection will give a new route to northern Vermont, New Hampshire and Maine, both by lake at Ogdensburg, and by rail by the New York Central's Rome, Watertown and Ogdensburg Division, also by lake via Buffalo.

A further connection is contemplated by the construction of a short line between State Line on our Berkshire Division and New Lebanon, N. Y., on the Rutland Railroad, which will enable an interchange of business between local points upon the New Haven and Rutland Roads, which should result in increased revenue to both properties.

Effective July 1, 1911, your Company has entered into an agreement with the New York Central and Hudson River Railroad Company whereby it is to share equally in the net results of the operation of the Boston and Albany Railroad, which is leased to the Central Company for a term of ninety-nine years from July 1, 1900.

The main line of the Boston and Albany Railroad being an east and west line, connects with lines of railroad owned or controlled by the New Haven Company running in a northerly and southerly direction, so as to form with said lines convenient through routes for traffic between many points in New England and the West; the maintenance of said routes for traffic and the joint co-operation in providing facilities for the efficient handling of traffic along these routes, will be advantageous for the business of the territory served; by increasing the business done over the Boston and Albany Railroad there will result a fuller and more efficient utilization of the transportation facilities of that road and consequently a higher net return from its operation.

It is not expected that this agreement will result in any permanent financial loss to your Company; on the contrary, it is believed that any business that may be diverted from existing routes will be done at less cost and consequently at greater net profit via the short haul junctions; in addition to which the development of the new through routes to their full traffic efficiency, will, it is confidently believed, result in making a property that has shown a deficit show a profit in which, under the agreement your Company will share equally with the New York Central Company.

Agreements have also been made with the New York Central and Hudson River Railroad Company whereby your Company secures trackage rights over the Boston and Albany Railroad from Ashland, Massachusetts, to South Framingham, about 4 miles; from South Framingham, Mass., to the South Station, Boston, about 21 miles; from Newton Highlands, Mass., to the South Station, Boston, about 9 miles; from Pittsfield, Mass., to North Adams, Mass., about 21 miles. The trackage between Boston and Ashland enables your Company to offer a successful route between Boston and Hopkinton and Milford, thence by way of Franklin back into Boston, making a shorter circuit of a greater territory than served by any through line out of Boston, but indifferently served hitherto owing to the nature of your Company's lines making them the longest routes to all these points instead of as short or better a route to the same by the use of the Boston and Albany lines.

The trackage rights between South Framingham and Boston enable a better service to be given to business heretofore indifferently handled, and with probable increased profit as the result.

The trackage rights between Newton Highlands and Boston enable your Company to complete a circuit of great value in local business.

The trackage rights between Pittsfield and North Adams enables a connection to be made with the Boston and Maine Railroad which it is hoped will prove of great value, with an additional connection with the Rutland Railroad, through which a considerable business will be interchanged between parts of the New Haven System and parts of the Rutland System, which have heretofore been inaccessible to each other.

Your Directors have deemed it advisable to join the Pennsylvania Railroad Company in the construction of the New York Connecting Railroad, in which your Company has been a half-owner from the inception of the project.

This road is designed to be the new route for the interchange of traffic between the Pennsylvania and New Haven Systems in lieu of the present passenger and freight ferry service between the Pennsylvania System on the west bank of the Hudson River and the New Haven System at Harlem River and Oak Point.

For the present water haul freight service from the west bank of the Hudson River via the East River to your Company's terminals at Harlem River and vicinity, a distance of about fourteen miles, it substitutes a short water haul of about four miles from Greenville, New Jersey, to Bay Ridge, Borough of Brooklyn, a rail haul of 11½ miles from Bay Ridge to Fresh Pond Junction via the Long Island Railroad and a rail haul of 8.05 miles from Fresh Pond Junction to Port Morris via the New York Connecting Railroad or a total distance of approximately twenty-three miles.

Provision is also to be made for access to the New York Passenger Station of the Pennsylvania Railroad at 32nd Street and Seventh Avenue by means of a connection from Bowery Bay Road on the New York Connecting Railroad to the Long Island tunnel terminal at Sunnyside Yard, a total distance from Port Morris to the New York Station of about nine and a quarter miles.

The present float service is subject to delays and dangers due to fog, tides and the crowded condition of the Hudson and East Rivers, which will be almost entirely eliminated by the new route; besides, the populous territory of the Long Island Railroad will be opened up to the New Haven lines and access afforded to the Pennsylvania's New York Passenger Station and by that means to the benefits to be derived from a largely increased interchange of passenger traffic between the two systems.

The New York Connecting Railroad will be operated by the New Haven Company and the results shared by the Pennsylvania and New Haven Systems proportionate to their respective earnings on the freight traffic interchanged.

Your Company's present investment in the New York Connecting Railroad amounts to about $2,500,000 represented by the cost of one-half of the capital stock and by advances, of one-half of the total expenditures for real estate, right of way and engineering. The investment in capital stock, approximately $1,500,000, has been carried without any income return.

The construction of the railroad, including bridges, will cost approximately twenty million dollars, the funds for which will be provided by an issue of bonds guaranteed jointly by The Pennsylvania Railroad Company and The New York, New Haven and Hartford Railroad Company.

The following lines have been merged effective upon the dates named, and their outstanding obligations have been assumed and are included in this year's balance sheet:

New Haven and Northampton Company, October 26, 1910.

Berkshire Railroad Company, October 26, 1910.

Rhode Island and Massachusetts Railroad Company (in Massachusetts), October 26, 1910.

Milford and Woonsocket Railroad Company, December 19, 1910.

Milford, Franklin and Providence Railroad Company, December 19, 1910.

Mr. Thomas DeWitt Cuyler, of Philadelphia, Pa., was elected October 26th, 1910, a member of the Board of Directors to fill the vacancy created by the death of Mr. John H. Whittemore.

At the annual meeting of the Stockholders held October 26th, 1910, an amendment to the Stockholders' By-Laws was adopted increasing the number of members of the Board of Directors from twenty-five to twenty-seven, and Augustus S. May, of Bridgeport, Conn., and Arthur E. Clark of Wallingford, Conn., were elected members of the Board on that date.

Mr. Nathaniel Thayer died at Boston, Massachusetts, on March 21st, 1911, and the following minute was entered upon the records of the Board:

"Mr. Nathaniel Thayer, a Director of the Company for many years, died at his residence, in Boston, Massachusetts, on Tuesday, March 21st, 1911.

"The Directors desire to place on record their appreciation of his services, their kindly remembrance of pleasant personal acquaintance and association, and their regret at the severance of ties which have so long existed to the advantage of themselves and the Company."

"That the Secretary send a copy of these resolutions to members of his family."

The vacancy was filled by the election on April 21st, 1911, of Mr. Theodore N. Vail, of Boston, Massachusetts.

Mr. Augustus S. May resigned as director on May 18th, 1911, and the vacancy was filled by the election of Mr. Francis T. Maxwell, of Rockville, Connecticut.

Mr. Arthur E. Clark resigned as director on May 18th, 1911, and the vacancy was filled by the election of Mr. Edward Milligan, of Hartford, Connecticut.

The faithful and efficient services of the officers and employes are hereby acknowledged.

By order of the Board of Directors,
CHARLES S. MELLEN,
President.

New Haven, Connecticut,
September 21, 1911.

STATISTICS.

Passenger Traffic.	
Number of passengers carried earning revenue	83,193,164
Number of passengers carried one mile	1,534,301,064
Average distance carried ....Miles	18.44
Total passenger revenue (excluding mails, express, etc.)	$26,212,670.51
Average amount received from each passenger	.31508
Average receipts per passenger per mile	.01708
Total passenger service train revenue	$30,154,915.98
Passenger service train revenue per mile of road	$15,045.56
Passenger service train revenue per train mile	1,86523
Freight Traffic.	
Number of tons carried of freight earning revenue	23,257,041
Number of tons carried one mile	2,181,557,124
Average distance haul of one ton....Miles	93.80
Total freight revenue (excluding miscellaneous)	$30,329,092.32
Average amount received for each ton of freight	1.30408
Average receipts per ton per mile	.01390
Freight revenue per mile of road	$15,130.7289
Freight revenue per train mile	4.02717
Total Traffic.	
Operating revenues	$62,153,434.80
Operating revenues per mile of road	$30,456.17
Operating revenues per train mile	2.63853
Operating expenses, including Taxes	$44,476,995.78
Operating expenses, including Taxes, per mile of road	$21,794.43
Operating expenses, including Taxes, per train mile	1.88813
Net operating revenue, less Taxes	$17,676,439.02
Net operating revenue, less Taxes, per mile of road	$8,661.74
Train Mileage.—Revenue Service.	
Miles run by passenger trains	15,986,627
Miles run by freight trains	7,350,883
Miles run by mixed trains	180,233
Miles run by special trains	38,312
Total revenue train mileage	23,556,055
Non-revenue service train miles	1,347,989
Grand total train mileage	24,904.044
Car Mileage, Etc.	
Mileage of passenger cars	76,584,719
Mileage of loaded freight cars—North or East	88,347,797
Mileage of loaded freight cars—South or West	58,067,277
Mileage of empty freight cars—North or East	17,345,183
Mileage of empty freight cars—South or West	47,295,718
Average number of passengers per car mile	25.55
Average number of passengers per train mile	99.00
Average number of passenger cars per train mile	4.72
Average number oftons of freight per loaded car mile	14.91
Average number of tons of freight per train mile	289.67
Average number of freight cars per train mile	28.41
Average number of loaded cars per train mile	19.43
Average number of empty cars per train mile	8.00
Average mileage operated during year	2,040.75
Average mileage operated during year in Passenger Service	2,004.24
Average mileage operated during year in Freight Service	2,004.47

STATEMENT OF COMBINED INCOME.

(All Inter-Company Transactions eliminated.)

The following named companies are included in the subjoined Combined Income Account for the year ending June 30th, 1911:

The New York, New Haven and Hartford Railroad Company, Central New England Railway Company, The Connecticut Company, New York and Stamford Railway Company, The Westchester Street Railroad Company, Berkshire Street Railway Company, The Vermont Company, Hoosick Falls Railroad Company, Housatonic Power Company, The Rhode Island Company, The New England Navigation Company, Hartford and New York Transportation Company, Maine Steamship Company and New Bedford, Martha's Vineyard and Nantucket Steamboat Company.

For the information of stockholders a description of these companies is here given.

The New York, New Haven and Hartford Railway Company.

Reference is made to Exhibits in this General Statement for description.

Central New England Railway Company.

Operates 276.78 miles of railway—Campbell Hall, N. Y., to Silvernails, N. Y. (including Poughkeepsie Bridge), Poughkeepsie to Hopewell, Dutchess Junc. to Conn. State Line, Poughkeepsie to Boston Corners, Hartford, Conn., to Rhinecliff, N. Y., Tariffville, Conn., to Springfield, Mass., Wicopee Junction, N. Y., to Fishkill Landing, N. Y., of which 147.67 miles are owned and 129.11 miles are leased.

The Connecticut Company.

Operates 782.944 miles of street railway lines, of which 479.969 miles are owned, and 303.025 miles are leased, serving the following cities and towns:

Cities of New Haven, Hartford, Bridgeport, Waterbury, New Britain, Meriden, New London, Norwich, Middletown, Stamford, South Norwalk, Rockville, Derby, Shelton, Ansonia; and the Towns of East Haven, Branford, North Haven, Wallingford, Hamden, Orange, Southington, Plainville, Farmington, Putnam, Thompson, Killingly, Plainfield, Waterford, Montville, Norwich, Lisbon, Windham, Sprague, Griswold, Portland, Middlefield, Cromwell, Rocky Hill, Wethersfield, West Hartford, Bloomfield, Windsor, Windsor Locks, Coventry, Stafford, East Hartford, East Windsor, South Windsor, Manchester, Vernon, Enfield, Glastonbury, Suffield, Greenwich, Strathford, Milford, Huntington, Fairfield, Westport, Norwalk, Darien, Naugutuck, Watertown, Middlebury, Thomaston, Torrington, Winchester, Beacon Falls, Seymour, Cheshire, Newington, and Berlin, Connecticut.

New York and Stamford Railway Company.

Operates 33.97 miles of street railway lines, of which 20.16 miles are owned, and 13.81 miles are leased, serving the following cities and towns:

Cities of Stamford, Conn., and New Rochelle, N. Y., and the Towns of Greenwich, Conn., and Rye, Port Chester, Harrison and Mamaronck, N. Y.

The Westchester Street Railway.

Operates 28.60 miles of street railway lines, of which 22.63 miles are owned and 5.97 miles are leased, serving the following city and towns:

City of Mount Vernon, N. Y., and the Towns of Tarrytown, Elmsford, Greenburg, White Plains, Harrison, Scarsdale, Eastchester and Mamaroneck, N. Y.

Berkshire Street Railway Company.

Operates 111,881 miles of street railway lines, all of which are owned, serving the following city and towns:

City of Pittsfield, Mass., and the Towns of Williamstown, North Adams, Clarksburg, Adams, Cheshire, Lanesboro, Dalton, Lenox, Hinsdale, Lee Stockbridge, Great Barrington, Egremont and Sheffield, Mass.

The Vermont Company.

Operates 20.849 miles of street railway lines, all of which are owned, serving the following towns: Bennington and Pownal, Vt.

Hoosick Falls Railroad Company.

Operates 7.105 miles of street railway lines, all of which are owned, serving the following towns: Walloomsac, North Hoosick and Hoosick Falls, N. Y.

Housatonic Power Company.

Operates gas, electric lighting, water and power plants:

At Branford .....Electric lighting.
At Waterbury .....Electric lighting and gas.
At New Britain.....Electric lighting.
At Greenwich .....Electric lighting and gas.
At Norwalk .....Electric lighting and gas.
At Naugatuck .....Gas.
At Suffield .....Electric lighting and power.
At New Milford.....Water for furnishing electric lighting and power.

The Rhode Island Company.

Operates 347.02 miles of street railway lines, of which 38.67 miles are owned and 308.35 miles are leased, serving the following cities and towns:

Cities of Providence, Pawtucket, Central Falls, Woonsocket and Cranston, R. I., and the Towns of Warwick, North Providence, East Providence, Johnston, Smithfield, North Smithfield, Burrillville, Cumberland, Lincoln, Barrington, Coventry, Scituate, Warren, Bristol, East Greenwich, Foster, North Kingston, South Kingston and Narragansett, R. I.

The New England Navigation Company.

Owns 25 steamers, 21 lighters and 2 transfer tugs, operating the following lines:

Between New York and Bridgeport; New York and New Haven; New York and New London; New York-Newport and Fall River; New York and New Bedford; New York and Providence; Norwich-New London; Watch Hill and Block Island; Wickford Landing and Newport; also operates steamer running between Providence-Newport and Block Island.

Hartford and New York Transportation Company.

Owns 6 steamers, 7 tugs and 31 barges, operating between New York and Bridgeport; New York and Hartford and intermediate points on the Connecticut River; and New York and Providence.

Main Steamship Company.

Owns 5 steamers, operating lines between New York and Boston; and New York and Portland, Maine.

New Bedford, Martha's Vineyard and Nantucket Steamboat Company.

Owns 5 steamers, operating lines between New Bedford and Woods Hole, Martha's Vineyard and Nantucket.

Combined Income Account.

Revenue:	
Freight	$36,930,489.94
Passenger	42,393,409.79
Mail	695,938.86
Express	3,019,540.83
Other Transportation Revenue	799,185.90
Revenue other than Transportation	1,781,520.29
Electric Light	605,684.99
Electric Power	501,293.06
Gas	481,537.59
Water	22,362.23
Total Revenue	$87,230,963.48
Less Operating Expenses	58,070,456.46
Net Operating Revenue	29,160,507.02
Net Revenue from Outside Operations	1,398,338.21
Total Net Revenue	$30,558,845.23
Accrued Taxes	4,682,384.12
Operating Income	25,876,461.11
Income from Other Sources	3,504,057.34
Total Income	$29,380,518.45
Deductions from Income:	
Rentals of Leased Roads	$5,063,855.01
Interest on Bonds	2,884,379.79
Interest on Convertible Debentures	3,081,760.31
Interest on Debentures	4,930,673.23
Other Interest	589,010.42
Rentals other than above	1,929,129.05
Miscellaneous	328,308.24
Total Deductions from Income	$18,807,116.05
Net Income	$10,573,402.40
Dividents	10,886,691.00
Deficit	$313,288.60

COMBINED GENERAL BALANCE SHEET, JUNE 30, 1911.

The New York, New Haven and Hartford Railroad Company; The Harlem River and Portchester Railroad Company; Central New England Railway Company; The New England Navigation Company; Hartford and New York Transportation Company; Maine Steamship Company; New Bedford, Martha's Vineyard and Nantucket Steamboat Company; The Connecticut Company; The Rhode Island Company; New York and Stamford Railway Company; The Westchester Street Railroad Company; Berkshire Street Railway Company; The Vermont Company; The Hoosick Falls Railroad Company and Housatonic Power Company.

ASSETS.

PROPERTY INVESTMENT:		
Road and Equipment	$220,519,753.44	
Floating Equipment, Street Railways and other properties	108,942,472.68	
	$329,462,226.12	
Less, Reserve for Accrued Depreciation of Equipment	3,309,640.73	$326,152,585.39
Securities:		
Securities of Proprietary, Affiliated and Controlled Companies:		
Stocks (Exhibit I)	$43,057,051.28	
Miscellaneous (Exhibit I)	3,398,186.18	46,455,237.46
Other Investments:		
Advances to Proprietary, Affiliated and Controlled Companies for Construction, Equipment and Betterments	$1,678,313.53	
Miscellaneous Investments:		
Physical Property	8,004,353.62	
Securities (Exhibit II)	3,506,310.62	13,188,977.77
TOTAL PROPERTY INVESTMENT		$385,796,800.62
WORKING ASSETS:		
Cash		$30,644,356.15
Securities Issued or Assumed—Held in Treasury (Exhibit III)		201,700.00
Marketable Securities (Exhibit IV)		56,954,545.83
Loans and Bills Receivable		6,541,363.48
Net Balance due from Agents and Conductors		2,669,341.39
Miscellaneous Accounts Receivable		4,423,673.37
Materials and Supplies		5,807,788.63
Traffic and Car Service Balances due from other companies		375,854.47
Other Working Assets		980,119.47
TOTAL WORKING ASSETS		$108,598,742.79
ACCRUED INCOME NOT DUE:		
Unmatured Interest, Dividends and Rents Receivable		$601,544.41
DEFERRED DEBIT ITEMS:		
Temporary Advances to Proprietary, Affiliated and Controlled Companies	$1,568,928.33	
Working Funds	188,432.11	
Rents, Insurance and Taxes paid in advance	264,316.42	
Special Deposits	238,029.45	$2,259,706.31
Cash and Securities in Sinking and Redemption Funds:		
Connecticut Railway and Lighting Co. Sinking Fund	$481,658.96	
Worcester & Conn. Eastern Ry. Sinking Fund	58,000.00	
Maine Steamship Co. Sinking Fund, Portland Trust Co.	90,262.37	
Maine Steamship Co. Sinking Fund, Mercantile Trust Co.	69,931.44	699,852.77
Cash and Securities in Insurance and Other Reserve Funds:		
Insurance Fund	$1,982,038.53	
Accident and Casualty Fund	1,698,666.31	
Coal Insurance Fund	28,752.73	
Marine Insurance Fund, The New England Navigation Co.	165,805.08	3,875,262.65
Other Deferred Debit Items		2,860,722.47
TOTAL DEFERRED DEBIT ITEMS		$9,695,544.20
		$504,692,632.02

LIABILITIES.

STOCK:		
Capital Stock	$178,798,500.00	
Less held by Subsidiary Companies:		
The New England Navigation Co.	$21,323,400.00	
The Rhode Island Co.	147,900.00	
	21,471,300.00	$157,327,200.00
Premium realized on Capital Stock Sold (Since July 1, 1909)	$32,393,789.00	
Less premium on shares held by Subsidiary Companies	12,954,376.75	19,439,412.25
Capital Stock of Subsidiary Companies in hands of Public.		109,413.22
TOTAL STOCK AND PREMIUM REALIZED SINCE JULY 1, 1909		$176,876,025.47
MORTGAGE, BONDED AND SECURED DEBT:		
Mortgage Bonds, including Bonds of Merged Roads Assumed (Exhibit V)	$60,961,000.00	
Less held by Subsidiary Companies:		
The New England Navigation Co.	38,000.00	$60,923,000.00
Plain Bonds, Debentures and Notes, including Debentures of Merged Roads Assumed (Exhibit VI)		151,593,200.00
Funded Debt of Subsidiary Companies (Exhibit VII)		40,409,391.50
TOTAL MORTGAGE, BONDED AND SECURED DEBT		$252,925,591.50
WORKING LIABILITIES:		
Loans and Bills Payable		$22,600,000.00
Traffic and Car Service Balances due to other companies.		2,166,759.50
Audited Vouchers and Wages Unpaid		6,123,119.68
Miscellaneous Accounts Payable		170,875.92
Matured Interest, Dividends and Rents Unpaid		5,282,732.36
Matured Mortgage, Bonded and Secured Debt Unpaid		25,612.68
Other Working Liabilities		99,998.02
TOTAL WORKING LIABILITIES		$36,469,098.16
ACCRUED LIABILITIES NOT DUE:		
Unmatured Interest, Dividends and Rents Payable		$3,218,759.39
Taxes Accrued		33,359.08
TOTAL ACCRUED LIABILITIES NOT DUE		$3,252,118.47
DEFERRED CREDIT ITEMS:		
Operating Reserves		$1,049,988.00
Other Deferred Credit Items		2,324,445.09
TOTAL DEFERRED CREDIT ITEMS		$3,374,433.09
APPROPRIATED SURPLUS:		
Reserves from Income or Surplus:		
Invested in Sinking and Redemption Funds:		
Connecticut Railway and Lighting Co. Sinking Fund		$362,695.39
Invested in Other Reserve Funds:		
Insurance Fund	$1,753,322.84	
Accident and Casualty Fund	957,757.62	
Coal Insurance Fund	29,470.74	
Marine Insurance Fund, The New England Navigation Co.	161,195.72	2,901,746.92
TOTAL APPROPRIATED SURPLUS		$3,264,442.31
EQUIPMENT AND PERSONAL PROPERTY LEASED		8,304,671.06
DEFERRED LIABILITY ACCOUNT NET ASSETS, CONNECTICUT RY. AND LIGHTING CO.		626,236.92
PROFIT AND LOSS ACCOUNT		19,600,015.04
		$504,692,632.02

Contingent Liabilities:

The New York, New Haven and Hartford Railroad Company is liable jointly with other roads for any deficiency on foreclosure of bonds of The Boston Terminal Company.

The New York, New Haven and Hartford Railroad Company guarantees four per cent. dividends on preferred stock of the Springfield Railway Companies, $3,387,900., and payment of principal at one hundred five per cent. on liquidation.

The New York, New Haven and Hartford Railroad Company guarantees four per cent. dividends on preferred stock of the New England Investment and Security Company, $4,000,000. and payment of principal at one hundred five per cent. on liquidation; also guarantees the payment of principal, $3,400,000., and interest of the New England Investment and Security Company fifteen-year Funding Gold Notes dated April 1st, 1909; also guarantees the payment of an additional $12,850,000. and interest of New England Investment and Security Company fifteen-year Funding Gold Notes dated April 1st, 1909, when requested to do so by John L. Billard, as per contract.

Under the provisions of Section 4, Chapter 519, of the Acts of the General Court of the Commonwealth of Massachusetts, passed at its 1909 Session, The New York, New Haven and Hartford Railroad Company promises when they shall be sold to guarantee the principal of, and the dividends, and interest upon the capital stock, bonds, notes, and other evidences of indebtedness of Boston Railroad Holding Company, acquired by it. On June 15th, 1910, the General Court of the Commonwealth of Massachusetts approved an Act authorizing the issue of preferred stock (without voting power) of Boston Railroad Holding Company, in exchange for its four per cent. fifty-year Debentures dated November 1st, 1909; and on January 10th, 1911, the $20,012,000. Debentures owned by The New York, New Haven and Hartford Railroad Company were exchanged for preferred stock. On June 30th, 1911, there were held by the public, 28,000 shares of preferred stock of Boston Railroad Holding Company, on which the guarantee had been executed; and on the same date, The New York, New Haven and Hartford Railroad Company held the following stock:

31,065 shares of Common Stock of par value	$3,106,500.00
242,544 shares of Preferred Stock of par value	24,254,400.00

THE FIFTY-SECOND ANNUAL REPORT OF THE CHICAGO AND NORTH WESTERN RAILWAY COMPANY.

REPORT OF THE BOARD OF DIRECTORS.

To the Stockholders of the Chicago and North Western Railway Company:

The Board of Directors submit herewith their report of the operations and affairs of the Chicago and North Western Railway Company for the fiscal year ending June 30, 1911.

Average number of miles operated, 7,718.72.

OPERATING REVENUES.		
Freight Revenue	$49,024,957.99	
Passenger Revenue	19,118,883.67	
Other Transportation Revenue	6,311,374.92	
Nontransportation Revenue	462,969.25	
Total Operating Revenues		$74,918,185.83
OPERATING EXPENSES (70.76 per cent. of Operating Revenues)		53,012,710.19
Net Operating Revenue		$21,905,475.64
OUTSIDE OPERATIONS—Net Deficit		53,676.96
Total Net Revenue		$21,851,798.68
TAXES ACCRUED (4.16 per cent. of Operating Revenues)		3,116,033.84
Operating Income		$18,735,764.84
OTHER INCOME.		
Rents—Credits	$152,580.63	
Dividends on Stocks Owned	1,711,222.00	
Interest on Funded Debt Owned	4,087.50	
Interest on Other Securities, Loans and Accounts	1,165,576.30	
Total Other Income		3,033,466.43

CHICAGO AND NORTH WESTERN RAILWAY COMPANY (Continued from preceding page).

Gross Income		$21,769,231.27
DEDUCTIONS FROM GROSS INCOME.		
Rents—Debits	$1,200,022.70	
Interest Accrued on Funded Debt	7,726,146.35	
Other Interest	1,360.97	
Sinking Funds	225,000.00	
Other Deductions	13,601.24	
Total Deductions from Gross Income		9,166,131.26
Net Income		$12,603,100.01
DIVIDENDS.		
8% on Preferred Stock	$1,791,600.00	
7% on Common Stock	9,108,015.00*	
Total Dividends on Stock		10,899,615.00
Balance Income for the year		$1,703,485.01

*This amount includes the full year's dividend on the increase in Common Stock of the Company issued during the latter half of the preceding fiscal year.

The results as compared with the preceding fiscal year were as follows:

Passenger Revenue increased	$687,866.20	
Other Transportation Revenue increased	543,030.29	
Nontransportation Revenue increased	23,485.84	
	$1,254,382.33	
Freight Revenue decreased	511,881.19	
Increase in Total Operating Revenues		$742,501.14
Operating Expenses increased	$859,090.98	
Taxes Accrued increased	136,521.32	
Increase in Operating Expenses and Taxes Accrued	$995,612.30	
Net Deficit from Outside Operations decreased	3,264.04	
		992,348.26
Decrease in Operating Income		$249,847.12

The Operating Expenses for the current fiscal year include paid for Labor as compared with $30,150,911.21 paid during fiscal year, being a decrease of $200,970.69, accounted for as follows:

	$29,949,940.52
Decrease account less time worked by employes	$1,312,287.22
Increase account higher rates of compensation	1,111,316.53
	$200,970.69

MILES OF RAILROAD.

The total number of miles of railroad owned June 30, 1911, was		7,544.77 miles
In addition to which the company operated:		
THROUGH OWNERSHIP OF ENTIRE CAPITAL STOCK—		
Princeton & Western Railway (Wyeville to Necedah, Wis.)	16.06 miles	
Wolf River Valley Railway (Junction east of Elton to Van Ostrand, Wis.)	1.98 "	
		18.04 "
UNDER LEASE—		
St. Paul Eastern Grand Trunk Railway (Clintonville to Oconto, Wis., and branches)	60.02 "	
De Pue, Ladd & Eastern Railroad (Ladd to Seatonville, Ill.)	3.25 "	
Belle Fourche Valley Railway (Belle Fourche to Newell, S. D.)	23.52 "	
James River Valley and North Western Railway (Blunt to Gettysburg, S. D.)	39.55 "	
		126.34 "
UNDER TRACKAGE RIGHTS—		
Peoria & Pekin Union Railway (in the city of Peoria, Ill.)	2.02 "	
Chicago, Indiana & Southern Railroad (Churchill to Ladd, Ill.)	2.80 "	
Union Pacific Railroad (Broadway Station, Council Bluffs, Iowa, to South Omaha, Neb.)	8.73 "	
Chicago, St. Paul, Minneapolis & Omaha Railway (Blair to Omaha, Neb.)	24.70 "	
Chicago, St. Paul, Minneapolis & Omaha Railway (in Sioux City, Iowa)	2.62 "	
Illinois Central Railroad (Sioux City to Wren Junction, Iowa	10.10 "	
Missouri Valley & Blair Railway & Bridge Company's track	3.36 "	
		54.33 "
Total miles of railroad operated June 30, 1911		7,743.48 "
The above mileage is located as follows:		
In Illinois		685.02 miles
In Wisconsin		1,968.73 "
In Michigan		519.88 "
In Minnesota		650.30 "
In Iowa		1,620.60 "
In North Dakota		14.28 "
In South Dakota		1,052.16 "
In Nebraska		1,102.05 "
In Wyoming		130.46 "
Total		7,743.48 "

FREIGHT TRAFFIC.

The details of Freight Traffic for the year ending June 30, 1911, compared with the preceding year, were as follows:

	1910.	1911.	Decrease Amount.	Per Cent.
FREIGHT REVENUE	$49,536,839.18	$49,024.957.99	$511,881.19	1.03

	1910.	1911.	Percentage of Increase or Decrease.
TONS OF FREIGHT CARRIED	39,339,739	36,733,526	6.62 Decrease
TONS OF FREIGHT CARRIED ONE MILE	5,562,587,719	5,433,696,684	2.32 Decrease
AVERAGE REVENUE RECEIVED PER TON	$1.26	$1.33	5.56 Increase
AVERAGE REVENUE RECEIVED PER TON PER MILE	.89 of a cent	.90 of a cent	1.12 Increase
AVERAGE DISTANCE EACH TON WAS HAULED	141.40 miles	147.92 miles	4.61 Increase
MILEAGE OF REVENUE FREIGHT AND MIXED TRAINS	21,336,510	19,648,998	7.91 Decrease
AVERAGE NUMBER OF TONS OF REVENUE FREIGHT CARRIED PER TRAIN MILE	260.71	276.54	6.07 Increase
AVERAGE NUMBER OF TONS OF REVENUE FREIGHT CARRIED PER LOADED CAR MILE	15.51	15.65	.90 Increase
AVERAGE FREIGHT REVENUE PER TRAIN MILE	$2.32	$2.50	7.76 Increase

PASSENGER TRAFFIC.

The details of Passenger Traffic for the year ending June 30, 1911, compared with the preceding year, were as follows:

	1910.	1911.	Increase Amount.	Per Cent.
PASSENGER REVENUE	$18,431,017.47	$19,118,883.67	$687,866.20	3.73

	1910.	1911.	Percentage of Increase or Decrease.
PASSENGERS CARRIED	28,697,470	30,330,900	5.69 Increase
PASSENGERS CARRIED ONE MILE	1,012,742,855	1,054,572,455	4.13 Increase
AVERAGE FARE PAID PER PASSENGER	64 cents	63 cents	1.56 Decrease
AVERAGE RATE PAID PER PASSENGER PER MILE	1.82 cents	1.81 cents	.55 Decrease
AVERAGE DISTANCE TRAVELED PER PASSENGER	35.29 miles	34.77 miles	1.47 Decrease
MILEAGE OF REVENUE PASSENGER AND MIXED TRAINS	20,015,474	20,144,057	.64 Increase
AVERAGE PASSENGER-TRAIN REVENUE PER TRAIN MILE	$1.15	$1.20	4.35 Increase

MAINTENANCE OF WAY AND STRUCTURES.

The total Operating Expenses of the Company for the year ending June 30, 1911, were $53,012,710.19; of this amount $10,002,073.13 was for charges pertaining to the Maintenance of Way and Structures. Included in these charges is a large part of the cost of 58,956 tons of steel rails, the greater portion of which was laid in replacement of rails of lighter weight in 444.84 miles of track; also the cost of 2,493,501 new ties.

The charges for Maintenance of Way and Structures also include a large portion of the cost of ballasting 16.78 miles of track with crushed stone, 74.77 miles with gravel, and 22.87 miles with cinders and slag; the erection, in place of wooden structures, of 44 new steel bridges on masonry, and 7 on pile supports, aggregating 5,097 feet in length and containing 5,622 tons of bridge metal; and the replacement of other wooden structures with masonry arch and box culverts and cast-iron pipes, the openings being filled with earth. The wooden structures replaced by permanent work aggregate 12,596 feet in length.

The charges on account of Maintenance of Way and Structures for the year ending June 30, 1911, compared with the preceding year, were as follows:

	1910.	1911.	Increase or Decrease.
RAILS LAID IN RENEWALS.			
New steel rails laid	22,646 tons	40,210 tons	17,564 tons Inc.
Usable rails laid	18,336 "	18,746 "	410 " Inc.
Total tons laid	40,982 "	58,956 "	17,974 " Inc.
TIES LAID IN RENEWALS.			
Number	2,418,782	2,493,501	74,719 Inc.
COST OF RAILS.			
New steel rails	$654,641.58	$1,149,889.91	$495,248.33 Inc.
Usable rails	445,169.75	386,659.53	58,510.22 Dec.
	$1,099,811.33	$1,536,549.44	$436,738.11 Inc.
Less value of old rails and other items	822,109.52	1,093,061.45	270,951.93 Inc.
Net charge for rails	$277,701.81	$443,487.99	$165,786.18 Inc.
COST OF TIES	1,240,473.53	1,285,538.95	45,065.42 Inc.
COST OF BALLAST	448,816.05	183,677.18	265,138.87 Dec.
COST OF OTHER TRACK MATERIAL	534,982.85	415,725.36	119,257.49 Dec.
ROADWAY AND TRACK LABOR AND OTHER EXPENSES	5,035,626.69	4,169,703.72	865,922.97 Dec.
Total Charges for Roadway and Track	$7,537,600.93	$6,498,133.20	$1,039,467.73 Dec.
Other Charges Account Maintenance of Way and Structures were as follows:			
BRIDGES, TRESTLES AND CULVERTS	1,096,140.27	1,284,681.52	188,541.25 Inc.
ROAD CROSSINGS, FENCES, ETC.	244,272.71	268,962.82	24,690.11 Inc.
SIGNALS AND INTERLOCKING PLANTS	250,727.87	246,663.31	4,064.56 Dec.
BUILDINGS, FIXTURES AND GROUNDS	953,297.12	986,104.39	32,807.27 Inc.
DOCKS AND WHARVES	60,626.64	68,556.21	7,929.57 Inc.
SUPERINTENDENCE	396,458.59	400,294.69	3,836.10 Inc.
ROADWAY TOOLS AND SUPPLIES	96,263.32	75,157.02	21,106.30 Dec.
SUNDRY MISCELLANEOUS CHARGES	138,950.44	173,519.97	34,569.53 Inc.
Total Charges Account Maintenance of Way and Structures	$10,774,337.89	$10,002,073.13	$772,264.76 Dec.

The above charges for Maintenance of Way and Structures for the current year amount to 18.87 per cent. of the total Operating Expenses, as compared with 20.66 per cent. for the preceding fiscal year.

MAINTENANCE OF EQUIPMENT.

The charges on account of Maintenance of Equipment for the year ending June 30, 1911, compared with the preceding year, were as follows:

	1910.	1911.	Increase or Decrease.
LOCOMOTIVES	$3,842,292.79	$4,021,661.26	$179,368.47 Inc.
PASSENGER-TRAIN CARS	926,679.91	980,437.97	53,758.06 Inc.
FREIGHT-TRAIN CARS	3,676,262.75	3,684,541.12	8,278.37 Inc.
WORK EQUIPMENT	252,672.05	107,056.90	145,615.15 Dec.
SHOP MACHINERY AND TOOLS.	173,216.59	201,271.48	28,054.89 Inc.
SUPERINTENDENCE	224,606.35	239,107.88	14,501.53 Inc.
SUNDRY MISCELLANEOUS CHARGES	53,486.26	73,119.48	19,633.22 Inc.

Total Charges Account Maintenance of Equipment	$9,149,216.70	$9,307,196.09	$157,979.39 Inc.

The above charges for Maintenance of Equipment for the current year amounted to 17.56 per cent. of the total Operating Expenses, as compared with 17.54 per cent. for the preceding fiscal year.

RESERVE FOR ACCRUED DEPRECIATION ON EQUIPMENT.

At the close of the preceding fiscal year there was a balance to the credit of the Equipment Reserve Accounts of		$1,398,702.01
During the year ending June 30, 1911, there was credited to the Equipment Reserve Accounts on account of charges to Operating Expenses and Profit and Loss, and for salvage		2,781,321.55
		$4,180,023.56
And there has been charged during the year against the above amount the original cost of Equipment retired and other items, as follows:		
51 Locomotives	$364,562.00	
10 Passenger-Train Cars	35,611.72	
1,822 Freight-Train Cars	1,275,396.31	
130 Work Equipment Cars	25,800.00	
Other Items	92,288.04	
		1,793,658.07
Leaving a balance to the credit of the Equipment Reserve Accounts on June 30, 1911, of		$2,386,365.49

TRANSPORTATION EXPENSES.

The Transportation Expenses of the Company for the year ending June 30, 1911, were $30,836,560.68, or 58.17% of the total Operating Expenses. Of this amount $18,550,310.88, or 60.16%, was charged for labor; $7,863,922.11, or 25.50%, was charged for fuel for locomotives and $4,422,327.69, or 14.34%, was charged for supplies and miscellaneous items. The increase in the Transportation Expenses for the year ending June 30, 1911, as compared with the preceding fiscal year, was $1,159,206.43, or 3.91%, distributed as follows:

Increase in amount charged for labor	$287,679.08
Increase in amount charged for fuel for locomotives	164,169.30
Increase in amount charged for supplies and miscellaneous items	707,358.05
	$1,159,206.43

CAPITAL STOCK.

During the year ending June 30, 1911, there was a decrease of $4,275.00 in the amount of Common Stock and Scrip held by the Public, and a corresponding increase in the amount of such Stock and Scrip owned by the Company.

There was no change in the Preferred Stock or Scrip.

The Company's authorized Capital Stock is Two Hundred Million Dollars ($200,000,000.00), of which the following has been issued to June 30, 1911:

Common Stock and Scrip held by the Public	$130,117,213.82	
Common Stock and Scrip owned by the Company	2,338,317.15	
Total Common Stock and Scrip		$132,455,530.97
Preferred Stock and Scrip held by the Public	$22,395,120.00	
Preferred Stock and Scrip owned by the Company	3,834.56	
Total Preferred Stock and Scrip		22,398,954.56
Total Capital Stock and Scrip, June 30, 1911		$154,854,485.53

FUNDED DEBT.

At the close of the preceding fiscal year the amount of Bonds held by the Public and in Sinking Funds was			$153,196,000.00
The above amount has been decreased during the year ending June 30, 1911, as follows:			
MATURED BONDS REDEEMED:			
Madison Extension First Mortgage Sinking Fund, 7%	$3,150,000.00		
M. L. S. & W. Ry. Income, 6%	500,000.00		
Menominee Extension First Mortgage Sinking Fund, 7%	2,697,000.00		
		$6,347,000.00	
BONDS REDEEMED WITH SINKING FUND PAYMENTS.			
C. & N. W. Ry. Sinking Fund of 1879, 6%	$61,000.00		
C. & N. W. Ry. Sinking Fund of 1879, 5%	74,000.00		
		135,000.00	
Total Bonds Redeemed			6,482,000.00
			$146,714,000.00
And the above amount has been increased by Bonds sold during the year, as follows:			
C. & N. W. Ry. General Mortgage Gold Bonds of 1987, 4%, sold to reimburse the Company for past expenditures made for construction and in redeeming matured bonds			22,500,000.00
Total Bonds held by the Public and in Sinking Funds, June 30, 1911			$169,214,000.00
Net Increase during the year in Bonds held by the Public and in Sinking Funds			16,018,000.00

BONDS IN THE TREASURY AND DUE FROM TRUSTEE.

At the close of the preceding fiscal year the amount of the Company's Bonds in its Treasury and due from Trustee was			$20,263,000.00
The above amount has been increased during the year ending June 30, 1911, as follows:			
C. & N. W. RY. GENERAL MORTGAGE GOLD BONDS OF 1987, RECEIVED OR DUE FROM TRUSTEE, VIZ.:			
On account of Construction Expenditures made during the year			1,000,000.00
On account of the following bonds retired:			
Madison Extension First Mortgage Sinking Fund, 7%		$3,150,000.00	
M. L. S. & W. Ry. Income, 6%		500,000.00	
Menominee Extension First Mortgage Sinking Fund, 7%		2,697,000.00	
C. & N. W. Ry. Sinking Fund of 1879, 6%		63,000.00	
C. & N. W. Ry. Sinking Fund of 1879, 5%		75,000.00	
			6,485,000.00
			$27,748,000.00

The Bonds on hand and due from Trustee have been decreased during the year as follows:

C. & N. W. RY. GENERAL MORTGAGE GOLD BONDS OF 1987, 4%, SOLD TO REIMBURSE THE COMPANY FOR PAST EXPENDITURES MADE FOR CONSTRUCTION AND IN REDEEMING MATURED BONDS	22,500,000.00
Total Bonds in the Treasury and due from Trustee, June 30, 1911	$5,248,000.00
Net Decrease during the year in Bonds in the Treasury and due from Trustee	$15,015,000.00

CONSTRUCTION.

The construction charges for the year enging June 30, 1911, were as follows:

	Miles.		
ON ACCOUNT OF ADDITIONAL MAIN TRACKS, VIZ.:			
Third Track, Mayfair Cut-Off, Ill.	2.52	$5,158.32	
Third and Fourth Tracks, Fulton Cut-Off, Ill.	4.69	8,580.04	
Second Track, Lake Shore Junction to north of Lindwerm, Wis.	4.11	23,747.15	
Second Track near West Allis, Wis.	1.28	64,768.68	
			$102,254.19
ON ACCOUNT OF EXTENSION, VIZ.:			
Dallas to Winner, South Dakota	21.48		320,853.63
ON ACCOUNT OF ELEVATING TRACKS, VIZ.:			
In the City of Evanston, Ill.		$279,933.55	
North 46th Avenue to Austin Avenue, Chicago, Ill.		9,095.64	
Austin Avenue to Harlem Avenue, Oak Park, Ill.		189,200.05	
Harlem Avenue, Oak Park, Ill., to Des Plaines River		139,797.59	
South Branch Track, from near Taylor Street to Canal St., Chicago, Ill.		131,808.12	
In the City of Milwaukee, Wis. (Madison Division)		28,422.70	
			778,257.65
SUNDRY CONSTRUCTION:			
Right of Way and Additional Depot and Yard Grounds		$170,143.12	
Station Buildings and Fixtures		451,651.85	
Shops, Enginehouses and Turntables		793,760.60	
Water and Fuel Stations		149,624.05	
Shop Machinery and Tools		55,718.26	
Permanent Bridges (cost of new over old)		928,752.18	
Interlocking and Signal Apparatus		33,421.74	
New Sidings, Yard Tracks and Spurs to Industries		435,121.48	
Betterment of Roadway and Track		339,326.78	
Fulton, Ill., Terminal Improvements		450,990.84	
Proviso, Ill., Terminal Improvements		255,428.55	
Boone, Iowa, Terminal Improvements		164,226.59	
New Chicago Passenger Terminal		4,188,061.99	
Miscellaneous Construction, including Road Crossings, Signs and other items		190,622.96	
			8,606,850.99
ADDITIONAL EQUIPMENT:			
175 Locomotives, 274 Passenger-Train Cars, 225 Freight-Train Cars and 3 Work Equipment Cars		$4,944,789.96	
Less Equipment retired		1,793,658.07	
			3,151,131.89
			$12,959,348.35
Cost of Lee County Railway			808,411.89
Cost of Sioux City, Dakota and North Western Railway			937,730.12
Total			$14,705,490.36

NEW PASSENGER TERMINAL IN THE CITY OF CHICAGO.

The Company's new Passenger Terminal in the city of Chicago was completed and opened to the public on June 4, 1911.

TRACK ELEVATION IN THE CITY OF CHICAGO AND VICINITY.

The elevation of the Company's roadway and main tracks in Chicago from a connection with its Rockwell Street line at Taylor Street to a connection with its Sixteenth Street line at Leavitt Street, a distance of .81 miles, has been practically completed.

The elevation of the main tracks of the Company on its Milwaukee line through the City of Evanston, Illinois, and the construction of five modern passenger stations in that City, have been completed.

Satisfactory progress is being made in the elevation of the two existing main tracks, and the construction and elevation of four additional main tracks on the Galena Division through the Village of Oak Park, which adjoins the City of Chicago at its western limits. The work now being executed, which will complete the undertaking, consists of the construction and elevation of two additional main tracks from Austin Avenue to Clinton Avenue, a distance of 1.22 miles; the elevation of the two existing main tracks and the construction and elevation of four additional main tracks from Clinton Avenue to Harlem Avenue, a distance of .41 miles; the construction of a retaining wall on the south side of the elevation from Humphrey Avenue to Harlem Avenue, a distance of 1.27 miles; and the erection of a modern passenger station at Marion Street.

Pursuant to ordinances adopted by the Villages of River Forest and Forest Park, Illinois, adjoining the Village of Oak Park at its western limits, the Company has undertaken the elevation of the two existing main tracks and the construction and elevation of four additional main tracks through those Villages, a distance of 1.43 miles.

SUNDRY ADDITIONS AND BETTERMENTS.

Among the more important sundry additions and betterments to the property of the Company during the fiscal year are the following:

An additional main track is being constructed from Lake Shore Junction, Wisconsin, to a connection with the Milwaukee, Sparta and North Western Railway near Lindwerm, Wisconsin, a distance of 4.11 miles, and an additional main track has been practically completed from West Allis, Wisconsin, to a connection with the Milwaukee, Sparta and North Western Railway 1.28 miles west of West Allis, including the revision of the grade and alignment of the existing main track. A line of single track railway has also been completed from a point about two miles north of Lake Shore Junction, Wisconsin, on the Lake Shore Division, to near Lindwerm, Wisconsin, on the Wisconsin Division, a distance of 1.00 mile, which furnishes a direct connection, north of the City of Milwaukee, be-

tween the Lake Shore Division and the Milwaukee, Sparta and North Western Railway.

An aggregate of 136.06 miles of yard tracks, sidings and industrial spurs has been added.

At Madison, Wisconsin, a modern and commodious passenger station building has been completed, the main portion of which is constructed of gray stone, is two stories in height and has a frontage on Blair Street of 127 feet and a depth of 109 feet; the remainder of the building is of brick, is one story in height and occupies an area of substantially 38′x 140′. The general waiting room in the new building is 78 feet long, 50 feet wide and 32 feet high and has a floor of marble tile and walls faced with Tennessee marble. This room communicates with a sheltered concourse, 50′x75′, from which gates lead to three track platforms, 20 feet in width and protected by iron and concrete shelter sheds 400 feet long. Directly adjoining and communicating with the general waiting room are the smaller waiting rooms, ticket and minor offices and a completely equipped dining and lunch room, 80 feet long and 35 feet wide. The second story of the new station is used for offices. In connection with this improvement an important enlargement and revision of track facilities has been made.

Modern brick passenger stations have also been completed at Wheaton, Harvard, Ravinia and Hubbard Woods, Illinois; Allis, Wisconsin; Negaunee, Michigan; O'Neill, Nebraska; and Aberdeen, South Dakota.

At Wheaton and Rockford, Illinois, brick freight stations, 20′x120′ and 32′x152′, respectively, have been constructed.

The shop plant of the Company at Chicago has been enlarged and improved by the construction of a 15-stall machine shop 189′x362′, a wheel and stripping shop 150′x189′ (equipped with the necessary tools), a transfer table and pit, and the installation of six electric traveling cranes.

The enlargement and improvement of the Company's terminal facilities at Proviso, Illinois, was inaugurated and a considerable expenditure made on that account during the year. The work now in progress consists of the construction of ample coal and water facilities and of 52.30 miles of yard tracks, which will increase the capacity of this yard to 4,967 cars.

At Nelson, Illinois, the construction of a 10-stall, 90-foot, brick engine house, clinker pit, turntable and a system of yard tracks with a capacity of 300 cars has been completed.

The improvements near Fulton, Illinois, consisting of a terminal yard, a 58-stall, 90-foot, engine house and other buildings, to which reference was made in the last annual report, have been completed.

At Boone, Iowa, the Company has undertaken the construction of a 36-stall, 90-foot, brick engine house, power house, electric light and transmission line, machine shop 164′x293′, transfer table and fittings, and miscellaneous buildings and extensive facilities for supplying coal and water; also, the construction of 17 miles of yard tracks, which will make the total capacity of this yard 1,400 cars.

At Waseca, Minnesota, the existing yard tracks are being rearranged and four additional yard tracks are being constructed, increasing the capacity of this yard 209 cars.

At Tracy, Minnesota, a new freight yard containing 3.75 miles of track with a capacity of 400 cars has been completed.

At Chadron, Nebraska, a 20-stall, 84-foot, brick-lined engine house, and a brick shop building 100′x52′, have been constructed to replace smaller buildings destroyed by fire, and the necessary new machinery and tools have been installed.

At Manitowoc, Wisconsin, a bituminous coal bridge 446 feet long and 60 feet high, and a bituminous coal screening plant, electrically operated, with suspended trolley runways and 5-ton bucket hoist for handling coal from boats to dock and from dock to cars, are being installed, together with a brick power house 44′x77′, having modern boilers and electrical generating power and lighting plant. The coal dock area is 277′x855′, and coal can be piled to a height of 40 feet. The capacity of the bituminous coal dock is 170,000 tons. Provision is also made for the future installation of a steel anthracite coal storage shed with complete handling plant having a capacity of 70,000 tons.

Additional plants have been installed at a number of stations to increase the facilities for supplying coal and water.

Telephone lines to be used in connection with the dispatching of trains are being constructed as follows:

From Milwaukee to Lindwerm, Wisconsin	8.00	miles
From Milwaukee to West Allis, Wisconsin	10.75	"
From East Clinton, Illinois, to Boone, Iowa	201.80	"
From Missouri Valley, Iowa, to Fremont, Nebraska, including Arlington to Irvington, Nebraska	55.97	"
From Omaha to South Omaha, Nebraska, via Irvington, Nebraska	20.20	"
From Tracy to Huron, South Dakota	136.30	"
From Huron to Oakes, South Dakota	136.20	"
From Sioux Valley Junction to Redfield, South Dakota	118.30	"

The following new equipment has been purchased during the year:

Locomotives		175
PASSENGER EQUIPMENT:		
Coaches (Steel)	50	
Chair Cars (Steel)	20	
Observation Smoking Cars (Steel)	2	
Parlor Cars (Steel)	6	
Observation Parlor Cars (Steel)	4	
Combination Passenger and Baggage Cars	7	
Baggage Cars (Steel)	25	
Postal Cars (Steel)	10	
Milk Express Cars	150	
		274
FREIGHT EQUIPMENT:		
Refrigerator Cars	50	
Ore Cars (Steel)	50	
Caboose Cars	125	
		225
WORK EQUIPMENT:		
Crane	1	
Ballast Unloader	1	
Ballast Spreader	1	
		3

NEW RAILWAYS AND EXTENSIONS.

The company has acquired by purchase, during the year, the following proprietary railways:

LEE COUNTY RAILWAY, a double track railway, extending from Nachusa to Nelson, Illinois, a distance of 12.76 miles.

SIOUX CITY, DAKOTA AND NORTH WESTERN RAILWAY, extending from a connection with the Illinois Central Railroad near Hinton, Iowa, to a connection with the Chicago and North Western Railway near Hawarden, Iowa, a distance of 28.17 miles.

And has leased the following proprietary railways:

BELLE FOURCHE VALLEY RAILWAY, extending from a connection with the Chicago and North Western Railway at Belle Fourche, South Dakota, eastwardly to Newell, South Dakota, a distance of 23.52 miles.

JAMES RIVER VALLEY AND NORTH WESTERN RAILWAY, extending from a connection with the Chicago and North Western Railway near Blunt, South Dakota, to a connection with the Chicago and North Western Railway at Gettysburg, South Dakota, a distance of 39.55 miles.

Substantial progress has been made during the year toward the completion of the following railways under construction in the interest of this company:

DES PLAINES VALLEY RAILWAY, a double track railway, extending from near Blodgett, Illinois, on the western division of the four track system of the Chicago and North Western Railway between Chicago and Milwaukee, to a connection with the Wisconsin Division near Des Plaines, Illinois, and thence to a connection with the Galena Division at Proviso, Illinois, a distance of about 21 miles.

MILWAUKEE, SPARTA AND NORTH WESTERN RAILWAY, extending from a connection with the Chicago and North Western Railway near Lindwerm on the Wisconsin Division, about eight miles north of Milwaukee, to Sparta on the Madison Division, a distance of 169.03 miles, and from a connection with the above line at a point about six miles west of Lindwerm, to a connection with the Milwaukee and Madison line near West Allis, a distance of 8.16 miles, in all 177.19 miles. This mileage includes an existing branch railway between Necedah and Wyeville, a distance of 13.05 miles, which is being reconstructed and will be used as a part of the main line. At Butler, located near the connection between these two lines west of Lindwerm, a 58-stall, 90-foot, brick engine house, brick power house 100′x110′, heating, water and fuel plants and miscellaneous terminal buildings are being constructed. There is also being constructed at this location a terminal yard containing 21.10 miles of track, with capacity for 1,525 cars.

THE ST. LOUIS, PEORIA AND NORTH WESTERN RAILWAY COMPANY was organized in the interest of this Company, in February, 1911, to construct a railway from a connection with the Chicago and North Western Railway near Peoria, to a connection with the Macoupin County Railway (a proprietary railway) near Girard, Illinois, a distance of about 90.4 miles. The right of way for this railway is being acquired. The new line will give the Company direct access to its extensive coal fields in Southern Illinois and insure to it an economical, adequate and reliable supply of fuel.

An extension of the Company's railway from Dallas, in Gregory County, South Dakota, to Winner, in Tripp County, South Dakota, a distance of 21.48 miles, has been completed.

INDIANA HARBOR BELT RAILROAD COMPANY.

In pursuance of the policy of the Company to make provision, as far as practicable, for the interchange of traffic with other railways outside of the limits of the City of Chicago, as well as to enable it to more directly participate in serving the large industrial territory under development in the vicinity of Indiana Harbor and Gary, Indiana, and tributary to the lines of the Indiana Harbor Belt Railroad Company, this Company has acquired by purchase during the year 20% of the outstanding capital stock and 20% of certain obligations of that Company. The Indiana Harbor Belt Railroad Company owns, or has trackage rights over, about 112 miles of railroad which connect with the lines of the Chicago and North Western Railway Company at its Proviso terminal yards.

LANDS.

During the year ending June 30, 1911, 27,098.55 acres and 37 town lots of the Company's Land Grand lands have been sold for the total consideration of $589,367.94. The total number of acres remaining in the several Grants June 30, 1911, amounted to 375,644.54 acres, of which 29,977.22 acres were under contract for sale, leaving unsold 345,667.32 acres.

Appended hereto may be found statements, accounts and statistics relating to the business of the fiscal year, and the condition of the Company's affairs on June 30, 1911.

By order of the Board of Directors.

WILLIAM A. GARDNER,
President.

GENERAL BALANCE SHEET, JUNE 30, 1911.

(7,544.77 Miles.)

ASSETS.

PROPERTY INVESTMENT.		
Road and Equipment:		
Balance to Debit of this Account, June 30, 1910	$291,597,611.02	
Add Sundry Construction and Equipment Expenditures for the year ending June 30, 1911, as see statement elsewhere herein	12,959,348.35	
" Cost of Lee County Railway	808,411.89	
" Cost of Sioux City, Dakota and North Western Railway	937,730.12	
		$306,303,101.38
Securities:		
Securities of Proprietary, Affiliated and Controlled Companies—Unpledged		1,470,113.15
Other Investments:		
Advances to Proprietary, Affiliated and Controlled Companies for Construction, Equipment and Betterments	$21,802,300.08	
Miscellaneous Investments	1,001,597.57	
		22,803,897.65
		$330,577,112.18
WORKING ASSETS.		
Cash	$12,964,392.90	
Common Stock and Scrip, C. & N. W. Ry. Co., in hands of Treasurer	2,338,317.15	
Preferred Stock and Scrip, C. & N. W. Ry. Co., in hands of Treasurer	3,834.56	
$40,000 M. L. S. & W. Ry. Ext. & Imp. Sinking Fund Bonds on hand.	40,000.00	
4,777,000 C. & N. W. Ry. General Mortgage Gold Bonds of 1987, due from Trustee in exchange for Bonds retired	4,777,000.00	
431,000 Southern Iowa Ry. First Mortgage Bonds on hand	431,000.00	
149,200 Shares of Capital Stock of the Chicago, St. Paul, Minneapolis & Omaha Ry. Co.	10,337,152.29	
41,715 Shares of Preferred Stock of the Union Pacific Railroad Co.	3,910,575.93	
Bills Receivable	449,224.00	

Traffic and Car-Service Balances Due from Other Companies	76,588.14	
Net Balance Due from Agents and Conductors	2,693,355.23	
Miscellaneous Accounts Receivable	2,122,222.16	
Materials and Supplies	4,669,456.33	
Other Working Assets	9,910.55	
		44,823,029.24
DEFERRED DEBIT ITEMS.		
Advances	$347,428.26	
Insurance Paid in Advance	50,389.80	
Cash and Securities in Sinking and Redemption Funds	6,286,877.80	
Other Deferred Debit Items	941,475.46	
		7,626,171.32
		$383,026,312.74

LIABILITIES.

CAPITAL STOCK.		
Common Stock and Scrip, C. & N. W. Ry. Co., held by the Public	$130,117,213.82	
Preferred Stock and Scrip, C. & N. W. Ry. Co., held by the Public	22,395,120.00	
		$152,512,333.82
Common Stock and Scrip, C. & N. W. Ry. Co., owned by the Company	$2,338,317.15	
Preferred Stock and Scrip, C. & N. W. Ry. Co., owned by the Company	3,834.56	
		2,342,151.71
Premium Realized on Capital Stock		29,657.75
		$154,884,143.28
MORTGAGE, BONDED AND SECURED DEBT.		
Bonds in hands of the Public	$154,852,500.00	
Add C. & N. W. Ry. Sinking Fund Debentures of 1933, in hands of Public, issued for purchase of Stock of C. St. P. M. & O. Ry. Co.	9,695,000.00	
	$164,547,500.00	
Bonds held by Trustee account Sinking Funds	4,666,500.00	
Bonds owned by the Company and due from Trustee	5,248,000.00	
		174,462,000.00
WORKING LIABILITIES.		
Traffic and Car-Service Balances Due to Other Companies	$1,476,041.90	
Audited Vouchers and Wages Unpaid	4,609,460.47	
Miscellaneous Accounts Payable	198,649.75	
Matured Interest, Dividends and Rents Unpaid	3,134,843.52	
Other Working Liabilities	8,921.96	
		9,427,917.60
ACCRUED LIABILITIES NOT DUE.		
Unmatured Interest Payable	$1,663,275.83	
Taxes Accrued	54,000.00	
		1,717,275.83
DEFERRED CREDIT ITEMS.		
Reserve for Accrued Depreciation on Equipment	$2,386,365.49	
Other Deferred Credit Items	251,269.52	
		2,637,635.01
APPROPRIATED SURPLUS.		
Sinking Fund on Madison Extension Gold Bonds	$1,531,824.37	
" " " Menominee Extension Gold Bonds	1,330,054.17	
" " " North Western Union Ry. Gold Bonds	1,372,564.24	
" " " W. & St. P. R. R. Extension Gold Bonds	2,051,840.29	
" " " C. & N. W. Ry. Sinking Fund Bonds of 1879.	544,594.73	
		6,830,877.80
PROFIT AND LOSS		33,066,463.22
		$383,026,312.74

COMPARATIVE STATEMENT OF INCOME ACCOUNT.

	Year Ending June 30, 1910. Average Mileage Operated 7,629.45	Year Ending June 30, 1911. Average Mileage Operated 7,718.72	Increase or Decrease.
OPERATING REVENUES.			
Freight Revenue	$49,536,839.18	$49,024,957.99	—$511,881.19
Passenger Revenue	18,431,017.47	19,118,883.67	687,866.20
Other Transportation Revenue	5,768,344.63	6,311,374.92	543,030.29
Nontransportation Revenue.	439,483.41	462,969.25	23,485.84
Total Operating Revenues	$74,175,684.69	$74,918,185.83	$742,501.14
OPERATING EXPENSES	52,153,619.21	53,012,710.19	859,090.98
Net Operating Revenue	$22,022,065.48	$21,905,475.64	—$116,589.84
OUTSIDE OPERATIONS—Net Deficit	56,941.00	53,676.96	—3,264.04
Total Net Revenue	$21,965,124.48	$21,851,798.68	—$113,325.80
TAXES ACCRUED	2,979,512.52	3,116,033.84	136,521.32
Operating Income	$18,985,611.96	$18,735,764.84	—$249,847.12
OTHER INCOME.			
Rents—Credits	135,300.72	152,580.63	17,279.91
Dividends on Stocks Owned	1,594,249.50	1,711,222.00	116,972.50
Interest on Funded Debt Owned	1,900.00	4,087.50	2,187.50
Interest on Other Securities, Loans and Accounts	808,309.23	1,165,576.30	357,267.07
Total Other Income	$2,539,759.45	$3,033,466.43	$493,706.98
Gross Income	$21,525,371.41	$21,769,231.27	$243,859.86
DEDUCTIONS FROM GROSS INCOME.			
Rents—Debits	1,397,277.94	1,200,022.70	—197,255.24
Interest Accrued on Funded Debt	7,582,514.99	7,726,146.35	143,631.36
Other Interest	931.89	1,360.97	429.08
Sinking Funds	225,500.00	225,000.00	—500.00
Other Deductions	20,649.23	13,601.24	—7,047.99
Total Deductions from Gross Income	$9,226,874.05	$9,166,131.26	—$60,742.79
Net Income	$12,298,497.36	$12,603,100.01	$304,602.65
DIVIDENDS ON STOCK.			
8% on Preferred Stock	1,791,600.00	1,791,600.00	.....
7% on Common Stock	8,040,438.00	9,108,015.00	*1,067,577.00
Total Dividends on Stock	$9,832,038.00	$10,899,615.00	$1,067,577.00
Balance Income for the year, carried to Profit and Loss	$2,466,459.36	$1,703,485.01	—$762,974.35

*NOTE:—This increase is due to a full year's dividend on the increase in Common Stock of the Company issued during the latter half of the preceding fiscal year.

PROFIT AND LOSS ACCOUNT, JUNE 30, 1911.

DR.

Depreciation accrued prior to July 1, 1907, on equipment retired or changed from one class to another during the current fiscal year	$1,282,296.73
Discount on C. & N. W. Ry. 4% General Mortgage Gold Bonds of 1987 sold during the year	825,000.00
Net loss on property sold or abandoned and not replaced	53,854.24
Balance Credit, June 30, 1911, carried to Balance Sheet	33,066,463.22
	$35,227,614.19

CR.

Balance, June 30, 1910	$32,178,932.10
Balance Income for Year ending June 30, 1911, brought forward from Income Account	1,703,485.01
Balance from operations of Land Properties for year ending June 30, 1911	522,145.69
Amount transferred from "Appropriated Surplus" on account of the retirement of Madison Extension and Menominee Extension First Mortgage Sinking Fund Bonds	806,323.05
Balance of accounts written off the books, etc	16,728.34
	$35,227,614.19

"COTTON BELT ROUTE" ST. LOUIS SOUTHWESTERN RAILWAY COMPANY.

OFFICE OF THE PRESIDENT,

NEW YORK, September 15, 1911.

To the Stockholders of the St. Louis Southwestern Railway Company:

I present herewith the Twentieth Annual Report of your Company, for the fiscal year ended June 30, 1911.

The report of the Vice-President and General Manager, which follows, exhibits full and complete details of operating revenues, operating expenses and other results from operation, as well as the financial and physical condition of the property.

Operating revenues aggregated $11,888,036.73 exceeding the "eleven million mark" for the first time in the history of your company and lacking only about $112,000.00 of reaching an aggregate of twelve millions, and show an increase of $901,520.77, or 8.21 per cent. over the total operating revenues of the preceding year, which were the largest up to that time. The natural growth and continued development of the country served by your lines of railway is reflected in the increase in the volume of traffic handled. While operating expenses were largely augmented by increased wage schedules and increased cost of coal, occasioned by the miners' strikes, it is gratifying to note that the net operating revenue shows an increase of $469,422.36, or 16.53 per cent.

It will be noted by this report, that liberal expenditures have been made for additions and betterments to the roadway and track. Substantial additions have also been made to the freight car equipment, purchases having been made principally through equipment trust agreements, under the terms of which, payments are spread over a period of ten years in equal annual installments.

CAPITAL STOCK.

There has been no change in the capital stock of your company during the fiscal year.

FUNDED DEBT.

The increase in funded debt of $1,576,077.80, as shown by the general balance sheet, is due entirely to an increase in the amount of Equipment Trust Obligations issued and outstanding and is accounted for, as follows:

Equipment Trust Obligations issued:	
Equipment Gold Notes, Series B, Bankers Trust Co., Trustee, covering deferred payments (extending over a period of ten years) for 1500 Box, 500 Automobile and 500 Refrigerator Cars	$1,760,000.00
Deduct:	
Equipment Trust Obligations paid	183,922.20
Net Increase	$1,576,077.80

CENTRAL ARKANSAS AND EASTERN RAILROAD COMPANY—LEASE.

Construction work on this line (control of which, as announced in the preceding annual report, has been acquired through a thirty-year lease) has progressed satisfactorily during the current year. The original line acquired extended from England, Ark., to Gregor, Ark., a distance of about 9½ miles; since this acquisition, extensions have been built from

ST. LOUIS SOUTHWESTERN RAILWAY COMPANY (Continued from preceding page.)

Gregor to Stuttgart, a distance of about 18 miles, and from Rice Junction to Hazen on the C. R. I. & P. Ry., a distance of about 17 miles. The entire line has been constructed in conformity with the latest standards and is now being ballasted with gravel. When the ballasting is completed, which it is expected will be during this Fall, the line will be turned over to your company for operation under the terms of the lease. First mortgage bonds of the Central Arkansas and Eastern R. R. Co., to the amount of $730,000.00, have been issued and sold to cover all expenditures for road and equipment to May 31, 1911.

STEPHENVILLE NORTH & SOUTH TEXAS RAILWAY COMPANY —PURCHASE.

As stated in the preceding annual report, your company has acquired ownership of the Stephenville North & South Texas Railway Co. by purchase of its capital stock and guaranteeing the payment, both as to principal and interest, of its First Mortgage, Five Per Cent., Thirty-Year, Gold Bonds. The original line acquired extended from Stephenville, Erath County, Texas, to Hamilton, Hamilton County, Texas, a distance of 42.6 miles. Extensions have since been built from Gatesville, the extreme southwestern terminus of the St. Louis Southwestern Railway Company of Texas, to Hamilton, a distance of 31.6 miles, and from Edson (near Hamilton) to Comanche, Comanche County, Texas, a distance of 31.5 miles. The entire new line, which opens up a resourceful territory heretofore lacking transportation facilities, is in operation at the date of this report. Application has been made to the Railroad Commission of the State of Texas for authority to issue bonds to cover the cost of construction of this new line, and it is expected that the desired authority will be granted at an early date.

DIVIDENDS ON PREFERRED STOCK.

Two semi-annual dividends, of 2% each, on the outstanding preferred capital stock, payable January 16 and July 15, 1911, were declared by the Board.

The crop and business conditions in the territory adjacent to your company's lines are good and the outlook for future traffic is therefore favorable.

The faithful and efficient services of your officers and employes, generally, during the past year, are acknowledged with pleasure.

For the Directors,
EDWIN GOULD, *President.*

"COTTON BELT ROUTE" ST. LOUIS SOUTHWESTERN RAILWAY CO.

OFFICE OF THE VICE-PRESIDENT AND GENERAL MANAGER.

ST. LOUIS, Mo., September 1, 1911.

MR. EDWIN GOULD, *President:*

DEAR SIR—Herewith I submit the Annual Report of the Company for the fiscal year ended June 30, 1911, showing the results from operation during the year and the financial and physical condition of the property at the close of the year.

The average main track mileage operated during the year was 1,487.0, an increase of 13.9 miles over the preceding fiscal year. The main track mileage operated at the close of the fiscal year, June 30, 1911, was 1,500.0 miles, an increase of 23.7 miles. This increase is explained as follows:

Trackage rights (freight trains only) over C. & E. I. R. R. from Thebes, Ill, to Olive Branch, Ill.		10.4
Trackage rights (freight trains only) over Illinois Central R. R., from Olive Branch, Ill., to Cairo, Ill.		18.0
Additional main track from Newro Junction, Ark., to Argenta, Ark.		3.2
		31.6
Less—Main track mileage Illmo, Mo., to Gray's Point, Mo., transferred to Illmo yard mileage	3.2	
St. L. I. M. & S. Ry. track mileage at Argenta and Little Rock, Ark., the use of which was discontiued upon completion of this company's facilities at Argenta	2.7	
Main track mileage Newro Junction, Ark., to St. L. I. M. & S. Ry. connection, transferred to side track mileage	2.0	7.9
Net Increase		23.7

A detailed exhibit of the mileage operated on June 30, 1911, showing the main line and branches separately, will be found in Table No. 1 of the appendix to this report.

In the condensed comparative statement, immediately following, will be found the financial results from operation for the year ended June 30, 1911, showing Operating Revenues, Operating Expenses, Net Operating Revenue, etc.

FINANCIAL RESULTS FROM OPERATION—ENTIRE SYSTEM.

INCOME ACCOUNT FOR FISCAL YEAR.

Item.	Year ended June 30, 1911.	Year ended June 30, 1910.	Increase or Decrease.
AVERAGE MILES OPERATED	1487.0	1473.1	13.9
OPERATING INCOME:			
RAIL OPERATIONS:			
Operating Revenues	$11,888,036.73	$10,986,515.96	$901,520.77
Operating Expenses	8,578,155.22	8,146,056.81	432,098.41
Net Operating Revenue	$3,309,881.51	$2,840,459.15	$469,422.36
OUTSIDE OPERATIONS:			
Revenues	$45,884.20	$46,641.60	—$757.40
Expenses	56,354.19	59,252.60	—2,898.41
Net Deficit	$10,469.99	$12,611.00	—$2,141.01
TOTAL NET REVENUE	$3,299,411.52	$2,827,848.15	$471,563.37
TAXES ACCRUED	369,291.55	369,704.36	—412.81
Total Operating Income	$2,930,119.97	$2,458,143.79	$471,976.18
OTHER INCOME	526,884.39	545,121.03	—18,236.64
GROSS CORPORATE INCOME	$3,457,004.36	$3,003,264.82	$453,739.54
DEDUCTIONS FROM GROSS CORPORATE INCOME	*2,242,181.28	*2,186,798.46	54,382.82
BALANCE, CREDIT, CARRIED FORWARD TO PROFIT AND LOSS ACCOUNT	$1,215,823.08	$816,466.36	$399,356.72

PROFIT AND LOSS ACCOUNT, JUNE 30, 1911.

Item.	Dr.	Cr.
Balance June 30, 1910		$4,826,255.63
Balance for Year brought forward from Income Account		1,215,823.08
Additions for Year		17,256.94
Extinguishment of Discount on Equipment Trust Obligations sold since July 1, 1907	$27,984.00	
Deductions for Year	124,887.18	
DIVIDENDS DECLARED:		
On Preferred Capital Stock—		
4% on $20,000,000.00, payable January 16 and July 15, 1911. $800,000.00		
Less amount on stock held in Company's treasury	4,254.00	
	795,746.00	
Balance, Credit, June 30, 1911	5,110,718.47	
Total	$6,059,335.65	$6,059,335.65

*Includes $121,700.00 dividends declared on Second Mortgage Income Bond Certificates—full interest (4%) on amount outstading in hands of public.

OPERATING REVENUES.

The steady development of the territory traversed by this line is reflected in the increase in total operating revenues of $901,520.77, or 8.21% over the last fiscal year. The increase in net operating revenue for the year was $469,422.36, or 16.53%.

Freight revenue increased $622,892.30, or 7.56%, due to improved business conditions and the continued development of the agricultural and industrial resources of the southwest country tributary to the line. The tonnage movement of cotton and cotton seed products, exceeded the previous year by 21%. The tonnage of rice, which is rapidly assuming importance as a product of the Arkansas section, increased 178%. There was a slight falling off in the tonnage of lumber and forest products (2.74%) while the tonnage of merchandise and miscellaneous manufactured articles increased 15.80%.

Passenger revenue increased $224,518.19 or 10.35%, which is attributable to the natural growth and the healthy business conditions prevailing.

The agricultural development of the country adjacent to this line, which has been commented upon in previous reports, continued with marked results during the past year. An increased interest in everything pertaining to better farming and larger yields is noticeable along the entire system. As a result of the organization of farmers' institutes, corn clubs, hog clubs, and of special demonstration events, the farmers are rapidly acquiring better cultural methods and greaetr ability to cope with climatic conditions.

For the season of 1910, Arkansas ranked second to all southern states in corn yield, producing 24 bushels to the acre and being exceeded only by Virginia, which produced 25.5 bushels to the acre.

The rice industry in Arkansas continued its remarkable development. The acreage devoted to this product in that state increased about 15% over the preceding year, Experience has demonstrated that the best quality of rice is grown at the point farthest north, where it can be cultivated, and the Arkansas rice ranks highest in this respect.

Great interest is being manifested in the reclamation, by means of levees and drainage ditches, of the alluvial overflow lands in Southeast Missouri, Northeast, Central and Southern Arkansas. Several millions of acres of fertile land will be reclaimed by properly draining the sections referred to.

The extensive industrial development of the section served by this company is evidenced by the establishment during the past year of many new industrial concerns, diversified in character, amongst which are the following: twelve hardwood lumber plants, eight stave mills, six ice factories, four grist mills, three peanut cleaning plants, two mattress factories, three brick plants, five handle factories, two glass factories, three cement tile works, and numerous factories manufacturing furniture, veneer, jugs, concrete blocks, cans, hoops, beehives, pottery, coffins, etc., etc.

The rate litigation with the States of Missouri and Arkansas, referred to in previous reports, is still pending. Permanent injunctions, in favor of the carriers, were granted by the United States Circuit Courts, but each of the States named has carried its case to the United States Supreme Court for final adjudication.

OPERATING EXPENSES.

The total operating expenses for the fiscal year ended June 30, 1911, shows an increase over the preceding fiscal year of $432,098.41, or 5.30%. The ratio of total Operating Expenses to total Operating Revenues this year was 72.16%, last year 74.15%.

The following changes occurred in the general operating expense accounts:

Maintenance of Way and Structures	decreased,	$350,810.68, or 16.31%
Maintenance of Equipment	increased,	206,518.13, or 11.12%
Traffic expenses	increased,	31,022.02, or 7.48%
Transportation Expenses	increased,	521,624.99, or 15.92%
General Expenses	increased,	23,743.95, or 5.32%

The decrease in Maintenance of Way and Structures is explained by the heavy maintenance work of an extraordinary character, done during the preceding year, notably the reconstruction of the steel bridges over the Arkansas and Saline rivers, the maintenance proportion of which amounted to about $164,000.00, and to extensive tie renewals, exceeding those of the present year by $157,970.44.

The policy of maintaining the company's equipment to a standard of high efficiency was carried on during the current year, and resulted in an increase for equipment maintenance of $206,518.13, or 11.12%.

The increase in Transportation Expenses was due principally to the increased cost of fuel, occasioned by miners' strikes in the coal producing districts contiguous to the line, and to advances in wages of employes. The increase in cost of coal used in all branches of the service, due to increase in price, aggregated for the current year $188,630.33, and the increase due to increased consumption on account of increased locomotive mileage was $76,750.62. The advances in wage schedules approximated 10%, and materially increased the operating expenses of the company.

Exhibit "A," on page 25, fully analyzes the operating expenses for the current and preceding years, and shows the ratios of operating expenses, by classes, to operating revenues and to total operating expenses, averages per mile of road operated, etc.; Exhibit "B," on pages 26 and 27 shows a comparison of operating expenses in detail, by primary, as well as by general, accounts.

TRAIN AND CAR LOADING.

The following tables show the average load per freight train and per loaded freight car for the past ten years:

Average load, in tons, per loaded car (including company material).

Year ended June 30.	St. L. S-W. Ry. Co.	St. L. S-W. Ry. Co. of Tex.	Entire System.
1902	17.32	15.81	16.84
1903	18.00	15.40	17.19
1904	18.29	15.62	17.43
1905	18.19	15.54	17.43
1906	18.79	16.63	18.13
1907	19.01	17.06	18.40
1908	19.25	17.35	18.69
1909	17.84	16.67	17.49
1910	18.58	16.89	18.14
1911	18.78	17.30	18.32

Average load, in tons, per train (including company material).

Year ended June 30.	St. L. S-W. Ry. Co.	St. L. S-W. Ry. Co. of Tex.	Entire System.
1902	344.14	160.23	255.80
1903	383.70	167.09	281.63
1904	387.65	172.20	284.72
1905	385.02	177.33	295.50
1906	415.15	194.49	315.06
1907	425.92	202.81	323.35
1908	407.61	189.99	311.19
1909	394.23	190.34	301.61
1910	434.16	196.27	326.11
1911	423.70	200.04	320.16

EQUIPMENT.

The following equipment, contracted for under trust agreements during the preceding year, was all received during the current fiscal year, viz: 16 freight locomotives, 14 passenger coaches, 6 chair cars, and 3 parlor-cafe cars.

There was contracted for, under trust agreements executed during the current fiscal year, 1500 box, 500 automobile and 500 refrigerator cars—of this lot, there were delivered and received up to June 30, 1911, 1500 box, 21 automobile, and 437 refrigerator cars, the balance having been received since the close of the fiscal year.

In addition to the foregoing there was purchased for cash, 2 official cars.

As a matter of information, of special interest, in connection with trust equipment, it is pertinent to state that, at this writing, there is not a vacant number in any series of passenger and freight cars or locomotives covered by the company's outstanding equipment trust obligations.

ADDITIONS AND BETTERMENTS.

The exhibit styled "Property Investment—Road and Equipment" on page 31, shows, in detail, the expenditures for additions and betterments during the year. There has been expended for Additions and Betterments—Road, to June 30, 1911, out of current funds, and for which no securities have been issued, the sum of $2,679,863.71; of this amount $1,411,759.40 was expended during the current year.

FREIGHT HOUSE, TEAM TRACKS, ETC., AT ST. LOUIS, MO.

Since the last annual report of the company, a desirable site in St. Louis has been selected and the property acquired, on which to construct a freight house, team tracks, etc. At the date of this report the old buildings on the property acquired have been razed, plans have been prepared for the new facilities and work on same is under way by the contractors.

TRACKAGE RIGHTS, WACO, TEXAS, TO McGREGOR, TEXAS, AND USE OF FACILITIES AT WACO, GRANTED TO THE GULF, COLORADO AND SANTA FE RAILWAY.

Effective April 10, 1911, a contract was entered into with the Gulf, Colorado and Santa Fe Ry., under the terms of which that company is granted the right to operate its freight and passenger trains over the rails of this company between McGregor, Texas, and Waco, Texas, a distance of eighteen miles, and the joint use of this company's terminal facilities at Waco, Texas.

USE OF TERMINAL FACILITIES AT SHERMAN, TEXAS, GRANTED TO THE MISSOURI, OKLAHOMA AND GULF RY. CO. OF TEXAS.

A contract was entered into with the Missouri, Oklahoma and Gulf Ry. Co. of Texas, effective November 1, 1910, granting that company the joint use of the terminal facilities of this company at Sherman, Texas.

In the succeeding chapters, headed respectively, "Financial Exhibits," "Traffic," "Transportation," "Maintenance of Way and Structures," "Maintenance of Equipment," etc., will be found a complete analysis of the financial condition, results from operation, and the maintenance and improvement of the property.

CONDENSED GENERAL BALANCE SHEET—

ENTIRE SYSTEM, JUNE 30, 1911.

(FORM PRESCRIBED BY THE INTERSTATE COMMERCE COMMISSION, EFFECTIVE JUNE 15, 1910.)

ASSETS.	TOTAL.	+Increase. —Decrease. This Year.
PROPERTY INVESTMENT:		
ROAD AND EQUIPMENT—(See exhibit H).		
Investment to June 30, 1907	$78,866,536.53	—
Investment since June 30, 1907	5,563,721.66	+$2,716,897.66
	$84,430,258.19	+$2,716,897.66
Reserve for Accrued Depreciation on Existing Equipment—Cr.	1,377,699.20	+ 370,018.42
Total	$83,052,558.99	+$2,346,879.24
SECURITIES—(See exhibit I).		
Securities of Proprietary, Affiliated and Controlled Companies—Pledged	$1,670,466.67	—
Securities Issued or Assumed—Pledged	12,504,333.20	—
Securities of Proprietary, Affiliated and Controlled Companies—Unpledged	22,379.00	+ $1.00
Total	$14,197,178.87	+ $1.00
OTHER INVESTMENTS—(See exhibit J, page 32.)		
Miscellaneous Investments	$10,130.32	—
Total Property Investment	$97,259,868.18	+$2,346,880.24
WORKING ASSETS. (See exhibit N).		
Cash	$1,220,032.82	— $531.80
Securities Issued or Assumed—Held in Treasury	250,250.00	—
Marketable Securities	706,833.72	—
Loans and Bills Receivable	222,920.24	+ 19,533.84
Traffic and Car-Service Balances (Net) Due from Other Companies	5,269.32	— 21,025.81
Net Balance Due from Agents and Conductors	63,851.22	— 4,575.57
Miscellaneous Accounts Receivable	3,096,910.42	+ 805,704.51
Materials and Supplies	1,051,104.09	— 566,438.59
Other Working Assets	8,939.28	— 3,803.98
Total	$6,626,111.11	+ $228,862.60
ACCRUED INCOME NOT DUE: (See exhibit N).		
Unmatured Interest, Dividends and Rents Receivable	$172,245.76	+ $743.17
DEFERRED DEBIT ITEMS: (See exhibit N).		
Advances	$1,398,371.24	— $151,240.36
Rents and Insurance Paid in Advance	19,357.34	— 1,402.95
Special Deposits	1,151,669.00	+ 610,391.20
Other Deferred Debit Items	156,097.29	— 100,076.89
Total	$2,725,494.87	+ $357,671.00
Total Working, Accrued and Deferred Assets	$9,523,851.74	+ $587,276.77
Total Assets	$106,783,719.92	+$2,934,157.01

LIABILITIES.		TOTAL.	+Increase. —Decrease. This Year.
STOCK: (See exhibit K).			
Common Stock:			
Held by Company — Unpledged	$143,900.00		
Not held by Company	16,356,100.00	$16,500,000.00	—
Preferred Stock:			
Held by Company — Unpledged	$106,350.00		
Not held by Company	19,893,650.00	20,000,000.00	—
Total		$36,500,000.00	—
MORTGAGE, BONDED AND SECURED DEBT: (See exhibit L).			
Funded Debt:—			
Mortgage Bonds:			
Not held by Company		$42,261,750.00	—
Income Bonds:			
Held by Company—Pledged	$6,957,500.00		
Not held by Company	3,042,500.00	10,000,000.00	—
Equipment Trust Obligations:			
Held by Company—Pledged	$5,546,833.20		
Not held by Company	2,981,157.34	8,527,990.54	+$1,576,077.80
Total		$60,789,740.54	+$1,576,077.80
Total Stock, Mortgage, Bonded and Secured Debt		$97,289,740.54	+$1,576,077.80
WORKING LIABILITIES: (See exhibit N).			
Loans and Bills Payable		$950,000.00	+ $800,000.00
Audited Vouchers and Wages Unpaid		1,115,195.31	+ 254,514.98
Miscellaneous Accounts Payable		98,531.31	+ 14,717.99
Matured Interest, Dividends and Rents Unpaid		267,486.15	— 13,760.00
Other Working Liabilities		18,011.60	+ 1,278.61
Total		$2,449,224.37	+$1,056,751.58
ACCRUED LIABILITIES NOT DUE: (See exhibit N).			
Unmatured Interest, Dividends and Rents Payable		$673,490.26	— $61,873.55
Taxes Accrued		173,290.92	+ 14,398.37
Total		$846,781.18	— $47,475.18
DEFERRED CREDIT ITEMS: (See exhibit N).			
Other Deferred Credit Items		$1,087,255.36	+ $64,339.97
Total Working, Accrued and Deferred Liabilities		$4,383,260.91	+$1,073,616.37
PROFIT AND LOSS:			
Balance		$5,110,718.47	+ $284,462.84
Total Liabilities		$106,783,719.92	+$2,934,157.01

NOTE 1.—The General Balance Sheet—Entire System, as above stated, represents a consolidation of the general balance sheets of the St. Louis Southwestern Ry. Co. and the St. Louis Southwestern Ry. Co. of Texas. In stating the assets and liabilities of the system, the holdings of the St. L. S-W. Ry. Co. in the bonds and capital stock of the St. L. S-W. Ry. Co. of Texas, together with the loans and advances made as between the two companies, have been eliminated from the liabilities, and a like reduction made in the assets pertaining thereto. The figures shown, therefore, represent the book value of the assets and liabilities of the system, without duplication. See appendix for general balance sheet of each company separately.

NOTE 2.—BONDS GUARANTEED: The St. L. S-W. Ry. Co. is guarantor of the payment of the principal and interest, as the same matures (if default in payment be made by the issuing companies) of the following securities:

Gray's Point Terminal Railway Co.—First Mortgage Bonds	$500,000.00
Shreveport Bridge & Terminal Co.—First Mortgage Bonds	450,000.00
Terminal R. R. Assn. of St. Louis—General Mortgage Bonds —1-15th	1,359,600.00

THIRTIETH ANNUAL REPORT OF THE CHICAGO, SAINT PAUL, MINNEAPOLIS AND OMAHA RAILWAY COMPANY.

REPORT OF THE BOARD OF DIRECTORS.

To the Stockholders of the Chicago, Saint Paul, Minneapolis and Omaha Railway Company:

The Board of Directors submit herewith their report of the operations and affairs of the Chicago, Saint Paul, Minneapolis and Omaha Railway Company for the fiscal year ending June 30, 1911.

The results of the operation for the year were as follows:

OPERATING REVENUES:		
Freight revenue	$10,563,204.36	
Passenger revenue	4,475,419.11	
Other revenue from transportation	951,030.26	
Non-transportation revenue	103,197.63	
Total operating revenue		$16,092,851.36
OPERATING EXPENSES:		
Maintenance of way and structures	$1,965,393.52	
Maintenance of equipment	1,863,983.78	
Traffic expenses	285,536.56	
Transportation expenses	6,155,616.44	
General expenses	385,523.46	
Total operating expenses (66.22 per cent. of operating revenue)		10,656,053.76
Net operating revenue		$5,436,797.60
Outside operations (net deficit)		12,538.06
Total net revenue		$5,424,259.54
Taxes accrued (4.54 per cent. of operating revenue)		730,807.55
Operating income		$4,693,451.99
OTHER INCOME:		
Joint facilities, rents	$59,636.31	
Dividends declared on stock owned	41,976.00	
Interest accrued on funded debt owned	11,725.68	
Miscellaneous	26,429.91	
		139,767.90
Gross corporate income		$4,833,219.89
DEDUCTIONS:		
Hire of equipment—balance	$80,770.91	
Joint facilities, rents	288,100.77	
Interest accrued on funded debt	1,631,590.16	
Miscellaneous	16,372.73	
		2,016,834.57
Net corporate income		$2,816,385.32
Dividends on stock (7% on both common and preferred)		2,086,910.00
Net surplus for the year		$729,475.32

COMPARATIVE INCOME.

As compared with the previous year, the results were as follows:

Operating revenues, increased		$997,828.55
Operating expenses, increased		767,574.65
Net operating revenue, increased		$230,253.90
Net deficit from outside operations, increased		11,890.61
Total net revenue, increased		$218,363.29
Taxes accrued, increased		47,975.91
Operating income, increased		$170,387.38
Other income, decreased		2,671.79
Gross corporate income, increased		$167,715.59
Interest on funded debt, increased	$20,023.49	
All other deductions, decreased	53,407.75	
		33,384.26
Net corporate income, increased		$201,099.85

The operating expenses for the current fiscal year include $5,950,393.38 paid for labor, as compared with $5,489,847.36 paid during the preceding fiscal year, being an increase of $460,546.02 paid on account of labor. Of this increase $198,463.06 was due to the increase in rates of compensation, and $262,082.96 to the increase in the number of men employed.

MILES OF ROAD.

The mileage operated on June 30, 1911, was 1,743.82, as follows:

	Owned.	Leased.	Total.
In Wisconsin	770.87	1.28	772.15
In Minnesota	434.33	38.71	473.04
In Iowa	74.54	27.50	102.04
In South Dakota	88.20	....	88.20
In Nebraska	306.29	2.10	308.39
Total	1,674.23	69.59	1,743.82

The average mileage operated was 1,742.55.

In addition to the above, the company owned and operated 85.29 miles of second track, located as follows:

In Wisconsin	59.35
In Minnesota	24.23
In Nebraska	1.71
Total	85.29

FREIGHT TRAFFIC.

The details of freight traffic for the year ending June 30, 1911, compared with the preceding year, were as follows:

	1910.	1911.	Increase—Amount.	Increase—Per cent.
Freight revenue	$9,720,911.60	$10,563,204.36	$842,292.76	8.66

	1910.	1911.	Percentage of Increase or Decrease.
Tons of freight carried	7,231,446	7,422,027	2.64 Increase
Tons of freight carried one mile	1,070,987,529	1,171,703,024	9.40 Increase
Average revenue received per ton	$1.34	$1.42	5.97 Increase
Average revenue received per ton per mile	.908 of a cent	.902 of a cent	.66 Decrease
Average distance each ton was hauled	148.10 miles	157.87 miles	6.60 Increase
Mileage of revenue freight and mixed trains	4,269,380	4,272,392	.07 Increase
Average number of tons of revenue freight carried per train mile	250.85	274.25	9.33 Increase
Average number of tons of revenue freight carried per loaded car mile	15.92	17.33	8.86 Increase
Average freight revenue per train mile	$2.28	$2.47	8.33 Increase

PASSENGER TRAFFIC.

The details of passenger traffic for the year ending June 30, 1911, compared with the preceding year, were as follows:

	1910.	1911.	Increase—Amount.	Increase—Per cent.
Passenger revenue	$4,309,072.83	$4,475,419.11	$166,346.28	3.86

	1910.	1911.	Percentage of Increase or Decrease.
Passengers carried	4,345,696	4,419,017	1.69 Increase
Passengers carried one mile	224,461,301	233,136,695	3.86 Increase
Average fare paid per passenger	99.16 cents	101.28 cents	2.14 Increase
Average rate paid per passenger per mile	1.920 cents	1.920 cents	.....
Average distance traveled per passenger	51.65 miles	52.76 miles	2.15 Increase
Mileage of revenue passenger and mixed trains	4,208,240	4,343,215	3.21 Increase
Average passenger train revenue per train mile	$1.22	$1.21	.82 Decrease

OPERATING EXPENSES.

Maintenance of Way and Structures:

The total operating expenses of the company for the year ending June 30, 1911, were $10,656,053.76; of this amount $1,965,393.52 was for charges pertaining to maintenance of way and structures. Included in these charges are $78,731.93 for rail, $286,115.35 for ties, and the cost of reballasting 130.75 miles with gravel, cinders or slag, also part cost of replacing 2,893 feet of wooden bridging with permanent work.

During the year 11,440 tons of new steel rails and 5,828 tons of usable and re-rolled steel rails were laid in track, a greater portion of which replaced rails of lighter weight, and 584,542 ties of all descriptions were laid in renewals.

The details of the charges to maintenance of way and structures for the year, compared with the previous year, were as follows:

Rails laid in renewals—	1910.	1911.	Inc. or Dec.
New steel rails laid	7,395 tons	11,440 tons	4,045 tons
Usable and re-rolled rails laid	6,895 "	5,828 "	*1,067 "
Total laid	14,290 "	17,268 "	2,978 "
Tiles laid in renewals—			
Number	429,246	584,542	155,296
Cost of rails—			
New steel rails	$265,853.01	$333,321.74	$67,468.73
Usable and re-rolled rails	111,935.54	114,971.82	3,036.28
	$377,788.55	$448,293.56	$70,505.01
Less value of old rails and other items	292,971.43	269,561.63	76,590.20
Net charge for rails	$84,817.12	$78,731.93	*$6,085.19
Cost of ties	231,291.37	286,115.35	54,823.98
Cost of ballast	104,543.23	73,202.80	*31,340.43
Cost of other track material	96,445.23	82,322.00	*14,123.23
Roadway and track labor and expenses	773,990.54	772,645.68	*1,334.86
Total charges for roadway and track	$1,291,087.49	$1,293,017.76	$1,930.27

*Decrease.

Other expenses account of maintenance of way and structures were as follows:			
Superintendence	80,691.12	80,618.38	*72.74
Bridges, trestles and culverts	221,182.49	228,284.24	7,101.75
Road crossings, fences, etc	53,964.62	52,031.43	*1,933.19
Signals and interlocking plants	6,195.31	8,216.70	2,021.39
Buildings, fixtures and grounds	152,898.49	194,355.48	41,456.99
Docks and wharves	7,304.29	6,126.95	*1,177.34
Roadway tools and supplies	14,000.68	15,381.92	1,381.24
Miscellaneous charges	129,130.88	87,360.66	*41,770.22
Total charges account of maintenance of way and structures	$1,956,455.37	$1,965,393.52	$8,938.15

The foregoing expenditures for maintenance of way and structures for the current year amount to 18.44 per cent. of the total operating expenses, as compared with 19.79 per cent. for the preceding fiscal year.

Maintenance of Equipment:

The charges on account of maintenance of equipment for the year ending June 30, 1911, compared with the preceding year, were as follows:

	1910.	1911.	Inc. or Dec.
Locomotives	$731,805.13	$782,338.45	$50,533.32
Passenger train cars	172,479.96	208,431.11	35,951.15
Freight train cars	725,754.33	742,637.83	16,883.50
Work equipment	29,856.53	24,364.98	*5,491.55
Shop machinery and tools	29,164.62	28,260.06	*904.56
Superintendence	50,380.33	54,346.40	3,966.07
Sundry miscellaneous accts	18,702.19	23,604.95	4,902.76
Total charges account of maintenance of equipment	$1,758,143.09	$1,863,983.78	$105,840.69

*Decrease.

The above charges for maintenance of equipment for the current year amount to 17.49 per cent. of the total operating expenses, as compared with 17.78 per cent. for the preceding fiscal year.

Transportation Expenses:

The transportation expenses for the year were $6,155,616.44, or 57.77% of the total operating expenses. Of this amount $3,479,678.47, or 56.53%, was for labor; $1,862,081.04, or 30.25%, was for fuel; and $813,856.93, or 13.22%, was for supplies and other items.

The total increase in the charges as compared with the previous year was $602,426.86, distributed as follows:

Increase in amount charged for labor	$323,372.21
Increase in amount charged for fuel for locomotives	217,440.28
Increase in amount charged or supplies and other items	61,614.37
Total increase	$602,426.86

EXTENSIONS OF LINE.

The extension of the line from Kennedy to Kaiser, Wis., a distance

of 4.93 miles, referred to in last report, was completed, and the line opened for traffic October 3, 1910.

Work has been commenced on the construction of a line from Black River Falls to a connection with the main line at Vaudreuil, Wis., a distance of 2.23 miles. The line will be completed and opened for traffic in the fall of 1911.

SECOND MAIN TRACK.

Contracts have been let and work is in progress on a new double track line from Eau Claire, Wis., west, for a distance of 3.18 miles, with a double track bridge over the Chippewa river, connecting with the old line at a point one and one-fourth miles east of Truax. It is expected that this line will be completed before the close of the next fiscal year.

A second main track is being constructed, for a distance of 40.23 miles, between Merrillan and Wyville, Wis. In connection with this work a change will be made in the line and grade for a distance of 3.80 miles, between Millston and Warren, shortening the distance 144 feet, eliminating two curves, reducing the curvature 38 degress and changing the controlling grade from .8 per cent. to .5 per cent. It is expected that the work will be finished and the track opened for traffic during the fall of 1911.

BUILDINGS.

Depots were erected to replace similar structures destroyed by fire, as follows:

Ashland Junction, Wis.
Mankato (Freight) and Jordan, Minn.
Fordyce and South Sioux City, Neb.

Work was begun on a new depot at Craig, Neb. A new brick passenger depot, 140 feet long, 31 feet wide except baggage end 22 feet wide, with steam heat, electric light and brick platform, was constructed at Sioux Falls, So. Dak., to replace the old depot which was moved to new location and remodeled for use as a freight depot. A brick freight house, 30 by 512 feet, with a second story at one end, 30 by 32 feet, for office use, was constructed at Minneapolis, Minn.; this building is provided with steam heat, plumbing and electric light. There was also constructed at Minneapolis an automobile platform, 30 by 325 feet, of concrete wall filled with earth, to take the place of old platform removed to make room for the new freight house. The passenger depot at New Richmond, Wis., and the freight-passenger depot at Bayfield, Wis., were remodeled and enlarged.

A five stall addition was made to the engine house at Altoona, Wis., and four stalls of the engine house at St. James, Minn., were extended 17 feet. Work is now in progress on the construction of a fifteen stall engine house, machine shop and oil house at Omaha, Neb., to replace buildings destroyed by fire. A brick addition was made to the engine room and work begun on a 20-foot addition to the passenger car shop at Hudson, Wis. Work is in progress on an addition, 120 by 221 feet, to the machine shop at St. Paul, Minn.

Water tanks were rebuilt at Osseo, Chetek and Hudson, Wis.

The elevator belonging to this company at Washburn, Wis., was dismantled and taken down.

SIDE TRACKS AND YARDS.

The net increase in the length of side and passing tracks was 6.64 miles, which includes 2.33 miles of track laid in the new yard north of Plymouth Avenue, Minneapolis, Minn.

BRIDGES.

The length of wooden bridging was decreased 2,893 feet, as follows:

By construction of permanent bridges	1,503	feet.
By construction of iron pipe culverts	1,376	"
By filling	14	"
Total	2,893	"

EQUIPMENT.

The following equipment was purchased:

Three passenger and 6 freight locomotives, 2 postal, 2 parlor, 600 box, 200 platform and 200 coal cars.

RESERVE FOR ACCRUED DEPRECIATION ON EQUIPMENT.

At the close of the preceding fiscal year there was a balance to the credit of the equipment reserve accounts of		$625,655.96
During the year ending June 30, 1911, there was credited to the equipment reserve accounts on account of charges to operating expenses and profit and loss, and for salvage		715,935.86
		$1,341,591.82
And there has been charged during the year against the above amount the original cost of equipment retired, as follows:		
6 Locomotives	$51,000.00	
708 Freight train cars	396,954.61	
		447,954.61
Leaving a balance to the credit of the equipment reserve accounts on June 30, 1911, of		$893,637.21

CAPITAL STOCK.

No stock was issued or sold during the year. The company's authorized capital stock is fifty million dollars ($50,000,000) of which the following has been issued to June 30, 1911:

Common stock and scrip held by the public	$18,559,086.69	
Common stock and scrip in treasury	2,844,206.64	
		$21,403,293.33
Preferred stock and scrip held by the public	$11,259,911.63	
Preferred stock and scrip in treasury	1,386,921.66	
		12,646,833.29
Total		$34,050,126.62

FUNDED DEBT.

At the close of the fiscal year, the amount of bonds of the company held by the public was $30,047,000, an increase of $1,573,000 over the previous year.

On June 30, 1910, the amount of the company's bonds and scrip in the treasury was $1,550,097.13

The above amount of bonds and scrip has been increased during the year as follows:

Chicago, Saint Paul Minneapolis and Omaha Railway, consolidated mortgage bonds of 1880, issued at the rate of $15,000 per mile on the extension of the line from Kennedy to Kaiser, Wis., a distance of 4-4910/5280 miles		$73,948.89
Chicago, Saint Paul, Minneapolis and Omaha Railway, consolidated mortgage bonds of 1880, issued in exchange for bonds retired, viz:		
Chicago, Saint Paul and Minneapolis Railway, first mortgage of 1878, 6%	$116,000.00	
North Wisconsin Railway, first mortgage of 1880, 6%	10,000.00	
	126,000.00	
		199,948.89
		$1,750,046.02

Less bonds retired or sold during the year as follows:

Bonds retired:		
Chicago, Saint Paul and Minneapolis Railway, first mortgage of 1878, 6%	$116,000.00	
North Wisconsin Railway, first mortgage of 1880, 6%	10,000.00	
	$126,000.00	
Bonds sold:		
Chicago, Saint Paul, Minneapolis and Omaha Railway, consolidated mortgage of 1880, 6%	$73,000.00	
Superior Short Line Railway, first mortgage of 1895, 5%	1,500,000.00	
	1,573,000.00	
		1,699,000.00
Total bonds in the treasury June 30, 1911		$51,046.02

LAND DEPARTMENT.

The net receipts from all grants were $117,969.96.

2,621.81 acres were disposed of during the year, leaving 88,285.34 acres unsold, June 30, 1911.

Appended hereto will be found the usual accounts, statements and statistics.

By order of the Board of Directors,
WILLIAM A. GARDNER,
President.

CONDENSATION OF GENERAL BALANCE SHEET, JUNE 30, 1911.

1,674.23 Miles.

ASSETS.

Property Investment—		
Road and Equipment:		
Balance to debit of this account June 30, 1910	$64,035,911.80	
Add sundry construction and equipment expenditures for the year ending June 30, 1911	1,358,736.62	
		$65,394,648.42
Securities:		
Securities of proprietary, affiliated and controlled companies, unpledged		196,000.00
Other investments:		
Advances to proprietary, affiliated and controlled companies, for construction, equipment and betterments		8,300.00
Miscellaneous investments		166,433.04
		$65,765,381.46
Working Assets—		
Cash	$1,805,442.79	
C. St. P. M. & O. common stock on hand	2,844,206.64	
C. St. P. M. & O. preferred stock on hand	1,386,921.66	
Consolidated mortgage bond scrip due from Central Trust Co	1,046.02	
S. S. M. & S.-W. Ry. Co. first mortgage bonds on hand	50,000.00	
Minneapolis Eastern Ry. first mortgage bonds on hand	75,000.00	
Minnesota Transfer Ry. first mortgage bonds on hand	182,000.00	
Bills receivable	1,955.83	
Traffic and car service balances due from other companies	130,197.26	
Net balance due from agents and conductors (including working funds)	355,065.63	
Miscellaneous accounts receivable	336,482.30	
Materials and supplies	986,566.76	
Other working assets	1,655.20	
		8,156,540.09
Deferred Debit Items—		
Advances	$6,542.12	
Other deferred debit items	236,025.00	
		242,567.12
		$74,164,488.67

LIABILITIES.

Capital Stock—		
Common stock and scrip outstanding	$18,559,086.69	
Preferred stock and scrip outstanding	11,259,911.63	
		$29,818,998.32
Common stock and scrip owned by the company	$2,844,206.64	
Preferred stock and scrip owned by the company	1,386,921.66	
		4,231,128.30
		$34,050,126.62
Mortgage, Bonded and Secured Debt—		
Bonds outstanding	$30,047,000.00	
Bonds and scrip owned by the company	51,046.02	
		30,098,046.02
Working Liabilities—		
Traffic and car service balances due to other companies	$391,235.24	
Audited vouchers and wages unpaid	1,274,268.75	
Miscellaneous accounts payable	95,814.58	
Matured interest, dividends and rents unpaid	85,241.50	
Deferred payments on equipment	440,222.41	
Other working liabilities	12,041.15	
		2,298,823.63
Accrued Liabilities, Not Due—		
Unmatured interest and dividends	$1,267,997.49	
Taxes accrued	437,592.75	
		1,705,590.24
Deferred Credit Items—		
Reserve for accrued depreciation	$893,637.21	
Unextinguished premium on funded debt sold	104,446.99	
Other deferred credit items	126,509.10	
		1,124,593.30
Profit and Loss		4,887,308.86
		$74,164,488.67

SEVENTEENTH ANNUAL REPORT—SOUTHERN RAILWAY COMPANY.

WASHINGTON, D. C., September 29, 1911.

To the Stockholders of the Southern Railway Company:

The Board of Directors submits the following report of the affairs of the Company for the year ended June 30, 1911:

INCOME STATEMENT.

	1911.	1910.	Increase or Decrease.
Miles of Road Operated—Average	7,041.95	7,050.17	Dec. 8.22
Gross Operating Revenues	$60,345,062.64	$57,294,508.34	Inc. $3,050,554.30
Total Operating Expenses	40,926,790.08	38,635,745.94	Inc. 2,291,044.14
Net Operating Revenue	$19,418,272.56	$18,658,762.40	Inc. $759,510.16
Outside Operations—Net Deficit	42,027.75	(*Cr*) 18,980.36	Inc. 61,008.11
Net Revenue	$19,376,244.81	$18,677,742.76	Inc. $698,502.05
Taxes	2,212,967.87	2,027,104.35	Inc. 185,863.52
Operating Income	$17,163,276.94	$16,650,638.41	Inc. $512,638.53
Other Income	3,292,529.36	3,227,927.98	Inc. 64,601.38
Total Gross Income	$20,455,806.30	$19,878,566.39	Inc. $577,239.91
Deductions from Income	2,660,946.05	2,759,069.41	Dec. 98,123.36
Total Available Income	$17,794,860.25	$17,119,496.98	Inc. $675,363.27
Interest on Mortgage, Bonded and Secured Debt	11,124,856.76	11,362,478.37	Dec. 237,621.61
Balance of Income over Charges	$6,670,003.49	$5,757,018.61	Inc. $912,984.88
Dividends on Preferred Stock:			
No. 21, One Per Cent., paid in April, 1911	$600,000.00	.....	Inc. $600,000.00
Reserve for Dividend No. 22, One Per Cent., payable in October, 1911	600,000.00	.....	Inc. 600,000.00
Total Dividends	$1,200,000.00	.....	Inc. $1,200,000.00
Balance over Dividends on Preferred Stock	$5,470,003.49	$5,757,018.61	Dec. $287,015.12
Additions and Betterments	66,045.71	52,372.91	Inc. 13,672.80
Balance carried to Credit of Profit and Loss	$5,403,957.78	$5,704,645.70	Dec. $300,687.92

DISCOUNT ON SECURITIES.

As of June 30, 1910, there remained a balance of discount on securities sold amounting to $4,853,144.57. There accrued during the year $35,700 as discount on Equipment Trust Obligations issued, and $75,000 as premium on First Consolidated Mortgage Bonds sold, leaving a net balance of $4,813,844.57. Following the general practice of the Company, there was charged during the year to Income $125,814.78, and to Profit and Loss $3,000,000, leaving a balance on June 30, 1911, of $1,688,029.79 to be charged to Income in subsequent years during the life of the securities, or, at the option of the Company, to Profit and Loss.

INTEREST.

The accrued Interest on the Funded Debt of the Company for the year was $302,504.19 less than for the previous year, while the accrued interest on Equipment Trust Obligations was $64,882.58 greater, thus making the total interest on Fund Debt and Equipment Trust Obligations $237,621.61 less than for the previous year (See Table 2, page 22).

DIVIDENDS.

The financial condition of the Company having so improved as to make such action entirely consistent with a sound and conservative policy, a Dividend of One Per Cent. on the Preferred Stock of the Company was declared and paid in April, 1911, and provision has been made for the payment in October of a similar Dividend out of Net Income earned during the year. It was considered that, as a fair recognition, under all the circumstances, of the just expectations of the holders of its Preferred Stock who had received dividends for a series of years until the conditions which culminated in the financial panic in the fall of 1907 and the subsequent business depressions necessitated their suspension, a reasonable proportion of the Company's cash resources could properly be devoted to the payment of dividends. It is the expectation of the Board of Directors that, with a continuance of favorable conditions, the rate of dividend may gradually be increased until the full dividend can again be properly paid.

PROFIT AND LOSS.

The surplus as shown by the Profit and Loss statement as of June 30, 1910, was $8,685,959.91, while the surplus as of June 30, 1911, after, as hereinbefore stated, charging to the account $3,000,000 for Discount on Securities, amounted to $11,445,965.08, a gain of $2,760,005.17 over the previous year. (See Table 3, page 23).

PROPERTY INVESTMENT AND MORTGAGE DEBT.

The investment in physical property, exclusive of depreciation, has been increased $7,574,876.55, of which $2,554,042.66 was in Road and $5,020,833.89 in Equipment. This increase represent net additions made during the year. (See pages 26 and 27).

The Mortgage, Bonded and Secured Debt increased during the year $5,369,300, consisting of increases in Mortgage and Collateral Trust Bonds $6,153,300, and a decrease in Equipment Trust Obligations amounting to $784,000. (See pages 28, 29 and 30).

There were retired during the year at maturity $500,000 Charlotte, Columbia and Augusta Railroad Company Second Mortgage Seven Per Cent. Bonds and $500,000 Richmond, York River and Chesapeake Railroad Company Second Mortgage Four and One-Half Per Cent. Bonds, and through the provisions of Sinking Funds $27,700 Charlottesville and Rapidan Railroad Company First Mortgage Six Per Cent. Bonds and $5,500 Franklin and Pittsylvania Railroad Company First Mortgage Six Per Cent. Bonds. All of these bonds were redeemed by the Company with Treasury Funds, and there were issued and placed in the Treasury to represent such disbursements an equal amount of First Consolidated Mortgage Five Per Cent. Bonds.

There were also retired at maturity during the year $1,580,000 Virginia Midland Railway Company Serial Mortgage Six Per Cent. Bonds, Series B, to retire which $1,500,000 First Consolidated Mortgage Five Per Cent. Bonds free in the Treasury were sold. Subsequently, as provided for in the First Consolidated Mortgage, $1,580,000 First Consolidated Mortgage Five Per Cent. Bonds were issued and placed in the Treasury.

By reason of these drawings the total amount of First Consolidated Mortgage Five Per Cent. Bonds free in the Treasury as of June 30, 1911, amounted to $2,392,800.

On February 21, 1911, there were drawn and taken into the Treasury $5,000,000 Development and General Mortgage Four Per Cent. Bonds, which, under the terms of that mortgage, could be so drawn during the calendar year 1911 to reimburse the Treasury for its advances made for additions and betterments. In like manner there were drawn and taken into the Treasury during the fiscal year $1,131,000 Development and General Mortgage Four Per Cent. Bonds to reimburse the Treasury for the proportion of equipment obligations paid during the year which was charged to capital account.

By reason of these drawings the total amount of Development and General Mortgage Bonds free in the Treasury as of June 30, 1911, was $13,667,000.

The Company has thus been able to conserve its Working Assets through the conservative, but progressive, employment of its Treasury funds.

ADDITIONS AND BETTERMENTS.

During the year the Company's new double-track line through Lynchburg, Va., was completed and put into service, giving a shorter line, without grade crossings and with substantial reduction in grades and curvature, thus avoiding congestion, promoting regularity and safety of train movement and effecting economies in operation. The completion of this work through Lynchburg, together with the construction of a mile and a half of double-track south from Franklin Junction, Va., to connect with about five miles of double-track already constructed from Whittle, Va., north—a gap of five miles between Sycamore and Franklin Junction, Va., being operated as a single-track gauntlet—gives the Company practically the equivalent of fifty miles of double-track between Monroe and Whittle, Va.

The new double-track line through the traffic tunnel between Citico and Ooltewah Junction, Tenn., referred to in previous annual reports, has been completed and placed in service since the close of the fiscal year, resulting in substantial gains in efficiency and economy of operation.

During the year the Company has pursued the policy of constructing lap-sidings to facilitate train movement at points where traffic is heavy but does not yet require double-tracking, these sidings being so arranged that they can be used as parts of a double-track line if the business shall require its construction. Thirteen of these lap-sidings are being constructed at points between Atlanta and Macon, Ga., eight between Knoxville and Chattanooga, Tenn., and three between Morristown, Tenn., and Asheville, N. C.; the aggregate length of which will be 28.4 miles.

Since the close of the year work has been commenced on thirty-eight miles of double-track north of Atlanta, between Crosskeys and Gainesville, Ga., which, in connection with six miles of existing double-track from Atlanta to Armour, Ga., and by the operation of two five-mile gaps as single-track gauntlets in a double-track system, will give practically the equivalent of fifty-four miles of double-track north from Atlanta to Gainesville, greatly facilitating the movement of traffic on that important part of the Company's lines.

The Company has also undertaken the completion of its Knoxville, Tenn., Belt Line River Front Extension by the construction of about seven miles of track, which will provide transportation facilities to the marble quarries along and adjacent to the Tennessee River, and will also provide track facilities for further industrial development in that vicinity.

The construction of a new inbound freight station of modern type at Atlanta, Ga., has been undertaken and is expected to be completed early in 1912. The upper floors of this building will provide office accommodations for the Company's forces at that point.

The Company is constructing additional yard facilities at Macon, Ga.; and, in connection with the Georgia Southern & Florida Railway Company, additional freight station and platform facilities are being provided at that point.

In connection with the Mobile & Ohio Railroad Company, the Company is constructing additional wharf facilities at Mobile, Ala., upon adjoining river frontage owned by the two companies. This improvement, consisting of a wharf and two-story warehouse, is necessary for the proper handling and storage of existing Cuban traffic and traffic to and from South America which it is expected will follow the establishment of regular steamship service to and from South American ports.

During the two years ended June 30, 1911, the Company has acquired and contracted for 198 locomotives, 203 passenger-train cars, 5,207 freight-train cars and 11 pieces of road service equipment, all of modern type and standard capacity. In addition 1,000 gondola cars, which had passed the stage of economical operation, were converted into 800 steel underframe ventilated box cars and 200 refrigerator cars at the Company's car works at Lenoir City, Tenn.

TERMINALS AT LOUISVILLE, KY.

During the year the Kentucky and Indiana Terminal Railroad Company, the entire capital stock of which is owned in equal parts by this Company, The Baltimore & Ohio Railroad Company and the Chicago, Indianapolis & Louisville Railway Company, made provision for the refunding of its entire outstanding funded debt and for the construction of a new double-track bridge across the Ohio River between Louisville, Ky., and New Albany, Ind., the double-tracking of its Belt Line, and the improvement and enlargement of its terminal facilities in Louisville, Ky.

For these purposes, it issued £1,231,000 (approximately $5,990,784.60) First Mortgage Four and One-Half Per Cent. Fifty-Year Gold Bonds, due January 1, 1961. These bonds are guaranteed, jointly and severally, as to principal and interest, by this Company, The Baltimore & Ohio Railroad Company and the Chicago, Indianapolis & Louisville Railway Company, which companies have, by contract, agreed to use during the life of the bonds, the bridge and terminal facilities of the Kentucky & Indiana Terminal Railroad Company for all their traffic in Louisville and crossing the Ohio River at Louisville.

LABOR CONDITIONS.

All questions as to wages and conditions of employment which have arisen during the year between the Company and its employees have been amicably adjusted. In some cases settlements were reached through mediation under the National Law commonly known as the Erdman Act. It is proper, in this connection, that recognition should be expressed of the conservative value of the Erdman Act as affording a means for the settlement of controversies between railway companies and their employees.

It is noteworthy that, in the settlement of the recent railway strike in England, through the medium of a special governmental commission, the government gave an assurance to the railway companies that it would propose legislation in the next session of Parliament providing that an increase in the cost of labor due to the improvement of conditions for the employees would be a valid justification for a reasonable general increase of charges within the legal maxima established under the Act of 1894.

Another illustration of this same tendency was a statement of the Judge of the Australian Court of Arbitration, acting under the compulsory arbitration law of Australia, in settling a controversy as to industrial wages. He said that he could not dictate to the employers what work they should carry on, but he could and would prescribe the conditions under which they must employ men, if they chose to employ them; and that if any industry could not afford to pay the "living wage" which the Court awarded, its remedy was to apply to the Federal Parliament for protective duties that would allow it to comply with the award.

PROGRESS OF THE SOUTH IN ITS RELATION TO THE COMPANY.

One of the most important factors in the strength of the Company's position is the progressive industrial and agricultural development of the territory traversed by its lines.

The growth of communities served by the Company's lines may be measured by the United States Census reports of population of all Southern Railway Stations of sufficient importance to be returned separately in 1890, 1900 and 1910. The figures for 1910 show a growth in the aggregate population of these places of 34.2 per cent. in the ten years since 1900, and of 75.3 per cent. in the twenty years since 1890.

The percentages of increase for Southern Railway stations, so far as reported separately by the Census Bureau, compare with the percentages of increase for the Southeastern States named as follows:

	1910-1900.	1910-1890.
VIRGINIA.		
Southern Railway stations	42.2	62.8
Entire State	11.2	24.4
NORTH CAROLINA.		
Southern Railway stations	60.5	185.7
Entire State	16.5	36.3
SOUTH CAROLINA.		
Southern Railway stations	25.4	72.5
Entire State	13.1	31.6
GEORGIA.		
Southern Railway stations	43.3	82.3
Entire State	17.7	42.0
ALABAMA.		
Southern Railway stations	83.2	144.3
Entire State	16.9	41.2
MISSISSIPPI.		
Southern Railway stations	47.9	127.6
Entire State	15.8	39.3
TENNESSEE.		
Southern Railway stations	34.7	90.1
Entire State	8.1	23.6
KENTUCKY.		
Southern Railway stations	13.6	46.2
Entire State	6.6	23.2

A diversified industrial development, based on the foundation of the manufacture of Southern raw materials, is in progress. This development is passing beyond the stage of advancing raw materials through the primary processes of manufacture, and is characterized, to an increasing degree, by the establishment of industries devoted to the conversion of the products of primary manufacturing into articles ready for the final consumers. A notable illustration of this is the multiplication of furniture factories and other woodworking establishments which use as their raw materials the products of the lumber mills of the South. The same tendency is seen in the establishment of plants which draw their raw materials from Southern iron and steel mills, cotton mills and other primary manufacturing industries. The United States Census reports on manufactures in 1909, as compared with 1904, show an increase of 40 per cent. in the annual value of manufactures in the Southeastern States traversed by the Company's lines. A large proportion of this industrial development has been contiguous to the lines of the Company.

This development during the year ended June 30, 1911, included the completion of 379 industrial plants and additions to 141 existing plants. At the close of the year there were 62 plants under construction. The plants completed during the year included 34 textile mills, 70 lumber mills, 11 furniture factories, 20 other woodworking plants, 24 iron industries, 12 cotton-seed oil mills, 13 fertilizer works, 29 flour and feed mills, 29 stone quarries, coal and other mines, 19 brick works and 118 miscellaneous plants.

With climatic and soil advantages unsurpassed by those of any other part of the United States, the farmers of the Southeastern States are taking up the most approved methods of agriculture with intelligence and zeal. The success with which they are doing this is attested by the statistics of the United States Department of Agriculture, which show increasing yields per acre in each State traversed by the Company's lines.

A table published by the United States Department of Agriculture giving the total value for each State of the farm crops reported on by the Department in comparison with the census figures for 1899, shows that in the Southeastern States traversed by the Company's lines there was an increase in the annual value of these crops in the eleven years from $485,481,000 to $1,042,614,000 or 115 per cent. For all of the other States, including the newer Western States where the growth has been rapid, the increase in the same period amounted to 73 per cent., and for the States north of the Ohio and Potomac Rivers and east of the Mississippi to 60 per cent.

The agricultural development in the territory contiguous to the Company's lines is due in part to increased average yields per acre, and partly to the more general practice of diversified farming. One-crop farming, even in the region most favorable to cotton production, is becoming much less common. Southeastern farmers are making record yields of corn and other grains, they are devoting more attention to live stock and dairying, and are growing more fruits and vegetables. There are localities along the Company's lines in Virginia, North Carolina and other States which are unsurpassed by any other region in the United States for the growing of apples. Orchards produce abundantly, the flavor of the fruit is particularly fine, and this industry is rapidly growing.

The management of the Company, with, as it thinks, a broad conception of its relations to the public, aims to make the railway not merely a carrier of the people and the products of the South, but also a helpful factor in Southern development. With that end in view it is carrying out a carefully considered policy of development work which has for its objects, primarily, the increase of the prosperity of the people already living in its territory, and, secondarily, the location along its lines of those from other regions who are seeking industrial and agricultural opportunities.

As the cotton plant is of such great economic importance to the people of the Southeast as a whole, and as important industries throughout the world, including the cotton mill and the cotton-seed crushing industries along the Company's lines, are dependent upon it for their raw materials, the management of the Company felt that an obligation rested upon it to aid the growers of cotton along its lines to meet the new problem which was presented by the appearance of the Mexican cotton boll weevil in a restricted region east of the Mississippi River in the season of 1910.

This insect made its appearance in Texas about 1892, and has gradually spread to the eastward. In the States west of the Mississippi River the appearance of the weevil has generally been followed by a series of short crops until the farmers have learned that by the adoption of improved cultural methods they can grow as much cotton per acre as before the insect arrived, and in some cases more. Profiting by this experience, in the fall of 1910 the Company, in conjunction with the Mobile & Ohio Railroad Company, The Alabama Great Southern Railroad Company and the Southern Railway Company in Mississippi, organized a Cotton Culture Department, with a General Agent and seven field agents, each one of whom has had practical experience in the growing of cotton under boll weevil conditions. It is the duty of these agents to visit the farmers in their fields and give them practical advice as to growing cotton by those methods by which farmers in boll weevil territory have recovered their losses and increased their production. This service is free to all farmers along our lines desiring to avail themselves of it. Through this means cotton growers in localities to which the weevil may spread are being put in readiness for the coming of the insect, so that they will not have to learn how to deal with it after it appears, at the cost of short crops, but will be able to maintain their production from the start. The value of the work of the Cotton Culture Department is much increased by the fact that the cultural methods being taught and which must be adopted when the weevil appears, are identically those by which the yield of cotton per acre may be increased where the weevil is not present. It is believed that as a result of the work of this Department, in co-operation with the United States Department of Agriculture and State authorities, the weevil will do relatively little damage if it shall spread to territory along the Company's lines. The results attained by the Company's Cotton Culture Department have been sufficiently satisfactory to warrant an increase in the force of field agents, and the work of the Department will be extended farther to the eastward so as to cover all of the territory along the Company's lines to which there is even a remote danger that the weevil may spread within the next several years.

It is interesting to note that, with governmental encouragement and the active support of European spinners, efforts are being made to increase cotton production in other parts of the world. A recent illustration of this was the publication of a letter from the British Foreign Office to the British Cotton-Growing Association, stating that the first step for encouraging the further cultivation of cotton in the Anglo-Egyptian Sudan had been taken "by putting down a plantation of several thousand acres, to test all conditions of which full knowledge is necessary before any scheme for a larger development can be undertaken." It is also reported that the possibilities of increasing cotton production in British East Africa are being looked into, and that improved transportation in Uganda is expected to be followed by increased production in that region. The French Government, for five years past, has annually placed a sum of money at the disposal of the Ministry of the Colonies for the purpose of promoting cotton-growing in the French Colonies.

The cotton-producing states of the United States now possess a substantial monopoly in the production of cotton, giving them an advantage such as is enjoyed by no other region in the world. It is gratifying to be able to state that the statistics of the United States Department of Agriculture, covering the period from 1866 to 1910, show that the average yield of cotton per acre in each of the cotton-producing states traversed by the lines of this Company has been greater in the last ten years than in any preceding ten-year period. In view of this increase under normal conditions, and as the boll weevil is not a menace to the supremacy of the southern part of the United States in cotton production, for the reason that successful and profitable growing of cotton under boll weevil conditions is a matter of the adoption of improved cultural methods, we may expect still larger yields per acre; and, notwithstanding the efforts being made to expand the industry in other countries, there should be no difficulty in the American planter keeping pace with the growing demand of the world and maintaining the great advantage which he now possesses.

The management of the Company, recognizing that the cutting up of the great cattle ranges of the West into farms will make the consumers of meat products in the United States dependent upon farm-grown meats for a larger proportion of their supply, and having in view the constant increase in the demand for meats and dairy products in the South and in the densely populated area along the North Atlantic seaboard, is making special efforts to encourage the development of live stock raising and dairying in its territory.

It is proper that recognition should be made of the valuable assistance rendered by the newspapers published in the cities and towns along the Company's lines and by commercial organizations, banks and individuals who have aided the Company in all its efforts to advance the agricultural prosperity of the Southeast. Highly effective work is being done along this line by the United States Department of Agriculture, the Agricultural Commissioners of the several States and the State Agricultural Colleges. The Company is working in harmony with all of these agencies, and special acknowledgment should be made of the cordial spirit with which they have welcomed its assistance and of their uniformly helpful co-operation.

THE SERVICE OF EMPLOYEES.

It is gratifying to the Board of Directors to be able to report that the service of officers and employees in all departments has been characterized during the year by loyalty to the interests of the Company. The standard of efficiency throughout the service is sufficiently high to justify the management in pursuing a consistent policy of filling, by promotion, vacancies that may occur, thus preserving a wide field of opportunity for advancement for all loyal and efficient employees.

Statements of the accounts and statistics of the Company in the usual detail will be found in the tables hereto annexed.

The accounts have been examined, as usual, by Certified Public Accountants, Messrs. Patterson, Teele & Dennis, and their certificate is made a part of this report.

Respectfully submitted, by order of the Board,
W. W. FINLEY, President.

Cable Address
"Dignus"

Arthur W. Teele, C. P. A.
John Whitmore.
Hamilton S. Corwin, C. P. A.
Harold F. Leeming, C. A.

F. R. C. Steele, C. A.,
Boston

PATTERSON, TEELE AND DENNIS
CERTIFIED PUBLIC ACCOUNTANTS
NEW YORK AND BOSTON

30 BROAD STREET,
NEW YORK, September 1, 1911.

To the Stockholders and Bondholders of the Southern Railway Company:

We have made an examination of the books and accounts of the Southern Railway Company for the fiscal year ending June 30, 1911, and have verified the Balance Sheet and Income and Profit and Loss Accounts published herewith.

The amount charged to Capital Accounts for expenditures during the year is, in our opinion, proper.

The securities owned have either been produced or we have obtained certificates from the various Trustees or Depositories holding the securities.

The valuation and equipment in the Balance Sheet is fully borne out by the rolling stock on hand and the provisions made for replacement.

The method of arriving at the valuation placed upon the material and supplies on hand has been carefully examined, and the results reached in former inventories justify the present valuation.

The amounts due to the Company from the various sources cited in the Balance Sheet are believed to be collectable, due provision having been made in the reserves for such as are of doubtful realization.

Cash has either been counter or certificates obtained from the Depositories.

All known liabilities have been stated, and sufficient reserves exist for such as have not yet been determined.

The charges against the year's income for the Maintenance of Way and Structures and Equipment have been, in our opinion, sufficient for the upkeep of the capital.

Respectfully submitted,
PATTERSON, TEELE & DENNIS,
Certified Public Accountants.

TABLE 1.

INCOME STATEMENT FOR YEAR ENDED JUNE 30, 1911, COMPARED WITH YEAR ENDED JUNE 30, 1910.

1910.		1911.
	OPERATING REVENUES:	
$38,161,391.93	Freight Revenue	$39,498,963.61
14,639,160.76	Passenger Revenue	16,056,303.76
279,092.78	Miscellaneous Passenger-Train Revenue	292,100.46
1,375,681.64	Mail Revenue	1,370,741.78
1,620,028.34	Express Revenue	1,816,970.04
845,782.71	Other Transportation Revenue	891,164.43
373,370.18	Revenue from Operations other than Transportation	418,818.56
$57,294,508.34	TOTAL OPERATING REVENUES	$60,345,062.64
	OPERATING EXPENSES:	
$6,635,724.58	Maintenance of Way and Structures	$7,464,916.42
9,876,728.58	Maintenance of Equipment	9,460,756.74
1,436,776.24	Traffic Expenses	1,549,403.98
18,934,426.56	Transportation Expenses	20,662,085.84
1,752,089.98	General Expenses	1,789,627.10
$38,635,745.94	TOTAL OPERATING EXPENSES	$40,926,790.08
$18,658,762.40	NET OPERATING REVENUE	$19,418,272.56
18,980.36	OUTSIDE OPERATIONS—NET REVENUE	.....
.....	OUTSIDE OPERATIONS—NET DEFICIT	42,027.75
$18,677,742.76	NET REVENUE	$19,376,244.81
2,027,104.35	TAXES	2,212,967.87
$16,650,638.41	OPERATING INCOME	$17,163,276.94
	OTHER INCOME:	
$15,499.98	Rents Accrued from Lease of Road	$17,499.96
149,345.71	Hire of Equipment—Balance	137,342.87
195,510.13	Rents Accrued from Joint Tracks, Yards and Terminals	200,131.10
135,016.29	Miscellaneous Rents	148,970.63
141,218.53	Miscellaneous Income	194,268.92
1,999,138.71	Income from Investments	2,153,005.36
592,198.63	Miscellaneous Interest and Commissions	441,310.52
$3,227,927.98	TOTAL OTHER INCOME	$3,292,529.36
$19,878,566.39	TOTAL GROSS INCOME	$20,455,806.30
	DEDUCTIONS FROM TOTAL GROSS INCOME:	
$31,958.56	Income from Operation, Southern Railway Company in Mississippi, Alabama State Line to Columbus, Miss.	$34,440.49
1,381,504.00	Rents Accrued for Lease of Other Roads (See Table 2)	1,381,505.00
808,656.56	Rents Accrued for Joint Tracks, Yards and Terminals	799,061.91
60,993.80	Miscellaneous Rents	60,017.72
116,462.04	Separately Operated Properties	176,396.39
266,806.19	Discount on Securities Sold—Proportion charged to Income	125,814.78
92,688.26	Miscellaneous Deductions	83,709.76
$2,759,069.41	TOTAL DEDUCTIONS	$2,660,946.05
$17,119,496.98	TOTAL AVAILABLE INCOME	$17,794,860.25
$10,533,324.19	INTEREST ON FUNDED DEBT (See Table 2)	$10,230,820.00
602,346.18	INTEREST ON EQUIPMENT TRUST OBLIGATIONS (See Table 2)	667,228.76
226,808.00	DIVIDENDS ACCRUED ON SOUTHERN RAILWAY—MOBILE & OHIO STOCK TRUST CERTIFICATES	226,808.00
$11,362,478.37		$11,124,856.76
$5,757,018.61	BALANCE OF INCOME OVER CHARGES	$6,670,003.49
	FROM WHICH DEDUCT:	
	Dividend No. 21 (1%) on Preferred Stock, paid in April, 1911	$600,000.00
	Reserve for Dividend No. 22 (1%) on Preferred Stock, payable in October, 1911	600,000.00
.....	TOTAL DIVIDENDS	$1,200,000.00
$5,757,018.61	BALANCE OVER DIVIDENDS ON PREFERRED STOCK	$5,470,003.49
52,372.91	ADDITIONS AND BETTERMENTS	66,045.71
$5,704,645.70	BALANCE CARRIED TO CREDIT OF PROFIT AND LOSS FOR THE YEAR	$5,403,957.78

TABLE 3.

PROFIT AND LOSS FOR YEAR ENDED JUNE 30, 1911.

Balance at Credit of this Account June 30, 1910	$8,685,959.91
Add:	
Credit Balance of Income for the Year	5,403,957.78
Net Miscellaneous Credits	356,047.39
	$14,445,965.08
Deduct:	
Discount on Securities charged off during the year	3,000,000.00
Credit Balance June 30, 1911	$11,445,965.08

TABLE 20.

OPERATING STATISTICS FOR YEARS ENDED JUNE 30, 1911 AND 1910.

	1911.	1910.	Increase or Decrease.	Per Cent. of Inc. or Dec.
MILEAGE:				
Miles of Main Line of Road in Operation on June 30th	7,038.64	7,050.17	—11.53	.16
Average Miles of Lines Operated during Year	7,041.95	7,050.17	—8.22	.12
Average Miles of Lines Maintained during Year	6,572.91	6,580.44	—7.53	.11
MAINTENANCE OF WAY AND STRUCTURES:				
Total Charges	$7,464,916.42	$6,635,724.58	$829,191.84	12.50
Ratio to Operating Revenues	12.37	11.58	.79	
Ratio to Operating Expenses	18.24	17.18	1.06	
CROSS-TIES RENEWED:				
In Main Line	2,922,239	2,617,049	305,190	11.66
In Side Tracks	409,447	324,131	85,316	26.32
Total	3,331,686	2,941,180	390,506	13.28
Cross-tie Renewals per Mile of Main Line Maintained	445	398	47	11.81
NEW STEEL RAIL LAID IN TRACK—TONS:				
75-lb. Section	50	4,570	—4,520	98.90
80-lb. Section	45	5,347	—5,302	99.16
85-lb. Section	43,340	36,570	6,770	18.51
86-lb. Section Girder	4	.....	4	
Total	43,439	46,487	—3,048	6.56
Miles of Track Laid with New Rail during Year	325.30	355.13	—29.83	8.40
New Ballast Placed in Track—Cubic Yards	327,104	584,066	—256,962	44.00
Total Miles of Ballasted Track, June 30th	4,402.92	4,350.59	52.33	1.20
MAINTENANCE OF EQUIPMENT:				
Total Charges	$9,460,756.74	$9,876,728.58	—$415,971.84	4.21
Ratio to Operating Revenues	15.68	17.24	—1.56	
Ratio to Operating Expenses	23.12	25.56	—2.44	
Average Number of Locomotives on Hand during Year	1,566	1,485	81	5.45
Cost of Repairs per Locomotive, excluding Renewals and Depreciation	$2,292.26	$2,288.98	$3.28	.14
Cost of Repairs per Locomotive, including Renewals and Depreciation	$2,540.44	$2,529.69	$10.75	.43
Average Cost of Repairs of Locomotives per Mile Run, excluding Renewals and Depreciation (Cents)	8.52	8.36	0.16	1.91
Average Cost of Repairs of Locomotives per Mile Run, including Renewals and Depreciation (Cents)	9.44	9.24	0.20	2.16
Average Number of Passenger-Train Cars on Hand during Year	1,076	1,030	46	4.47
Cost of Repairs per Passenger-Train Car, excluding Renewals and Depreciation	$648.43	$635.19	$13.24	2.08
Cost of Repairs per Passenger-Train Car, including Renewals and Depreciation	$756.68	$739.92	$16.76	2.27
Average Number of Freight-Train Cars on Hand during Year	51,188	51,065	123	.24
Cost of Repairs per System Freight-Train Car, excluding Renewals and Depreciation	$49.06	$57.83	—$8.77	15.17
Cost of Repairs per System Freight-Train Car, including Renewals and Depreciation	$76.49	$88.73	—$12.24	13.79
TRAFFIC EXPENSES:				
Total Charges	$1,549,403.98	$1,436,776.24	$112,627.74	7.84
Ratio to Operating Revenues	2.57	2.51	.06	
Ratio to Operating Expenses	3.79	3.72	.07	
TRANSPORTATION EXPENSES:				
Total Charges	$20,662,085.84	$18,934,426.56	$1,727,659.28	9.12
Ratio to Operating Revenues	34.24	33.05	1.19	
Ratio to Operating Expenses	50.49	49.01	1.48	
Transportation Expenses per Revenue Train Mile (Cents)	63.42	60.48	2.94	4.86
LOCOMOTIVE COSTS PER MILE RUN:				
Enginemen (Cents)	7.85	7.46	0.39	5.23
Enginehouse Expenses (Cents)	1.94	1.87	0.07	3.74
Fuel (Cents)	9.25	9.06	0.19	2.10
Water (Cents)	0.63	0.66	—0.03	4.55
Lubricants (Cents)	0.17	0.17		
Other Supplies (Cents)	0.19	0.21	—0.02	9.52
Total (Cents)	20.03	19.43	0.60	3.09
Average Number of Miles Run per Locomotive	40,863	40,791	72	.18
Average Number of Miles Run per Ton of Coal	12.77	12.74	0.03	.02
Coal Consumed—Tons	3,300,774	3,193,262	107,512	3.37
TRAIN COSTS PER MILE RUN:				
Trainmen—Passenger (Cents)	6.53	4.97	1.56	31.39
Trainmen—Freight (Cents)	11.47	9.33	2.14	22.94
Train Supplies and Expenses (Cents)	1.96	1.93	0.03	1.55
TOTAL TRAIN COSTS PER MILE RUN (Cents)	11.26	9.40	1.86	19.79

TABLE 16.

TRAFFIC STATISTICS FOR YEARS ENDED JUNE 30, 1911 AND 1910.

	1911.	1910.	Per Cent. of Increase or Decrease.
Average Miles of Road Operated.	7,041.95	7,050.17	Dec. .12
Passenger Traffic:			
Number of Passengers Carried	17,137,450	15,694,486	Inc. 9.19
Number of Passengers Carried One Mile	740,411,290	671,732,143	Inc. 10.22
Average Distance Hauled per Passenger (Miles)	43.20	42.80	Inc. .93
Total Revenue from Passengers	$16,056,303.76	$14,639,160.76	Inc. 9.68
Average Receipts per Passenger per Mile (Cents)	2.169	2.179	Dec. .46
Total Passenger-Train Revenue	$19,536,116.04	$17,913,963.52	Inc. 9.06
Passenger-Train Revenue per Mile of Road	$2,774.25	$2,540.93	Inc. 9.18
Passenger-Train Revenue per Train Mile	$1.18146	$1.14843	Inc. 2.88
Average Number of Passengers in Each Train	44.78	43.06	Inc. 3.99
*Average Number of Passengers in Each Car	13.57	13.42	Inc. 1.12
Freight Traffic:			
Revenue Freight:			
Number of Tons Carried	26,091,061	25,204,297	Inc. 3.52
Number of Tons Carried One Mile	4,088,496,793	3,985,563,001	Inc. 2.58
Average Distance Hauled Per Ton (Miles)	156.70	158.13	Dec. .90
Total Freight-Train Revenue	$39,498,963.61	$38,161,391.93	Inc. 3.51
Average Receipts per Ton per Mile (Cents)	0.966	0.957	Inc. .94
Freight-Train Revenue per Mile of Road	$5,609.09	$5,412.83	Inc. 3.63
Freight-Train Revenue per Train Mile	$2.32352	$2.27368	Inc. 2.19
Average Number of Tons of Freight in Each Train	240.51	237.46	Inc. 1.28
Average Number of Tons of Freight in Each Loaded Car	14.54	14.53	Inc. .07
All Freight (Including Company's Material Hauled Free):			
Number of Tons Carried	31,088,281	30,183.606	Inc. 3.00
Number of Tons Carried One Mile	5,111,331,177	4,969,652,728	Inc. 2.85
Average Number of Tons of Freight in Each Train	300.67	296.10	Inc. 1.54
Average Number of Tons of Freight in Each Loaded Car	18.17	18.12	Inc. .28
Revenues and Operating Expenses:			
Passenger and Freight-Train Revenue	$59,035,079.65	$56,075,355.45	Inc. 5.28
Passenger and Freight-Train Revenue per Mile of Road	$8,383.34	$7,953.76	Inc. 5.40
†Operating Revenues	$60,345,062.64	$57,294,508.34	Inc. 5.32
Operating Revenues per Mile of Road	$8,569.37	$8,126.68	Inc. 5.45
Operating Revenues per Revenue Train Mile	$1.85206	$1.82991	Inc. 1.21
†Operating Expenses (Taxes Excluded)	$40,926,790.08	$38,635,745.94	Inc. 5.93
Operating Expenses per Mile of Road	$5,811.85	$5,480.11	Inc. 6.05
Operating Expenses per Revenue Train Mile	$1.25608	$1.23397	Inc. 1.79
†Net Operating Revenue	$19,418,272.56	$18,658,762.40	Inc. 4.07
Net Operating Revenue per Mile of Road	$2,757.52	$2,646.57	Inc. 4.19
Net Operating Revenue per Revenue Train Mile	$0.59598	$0.59594	Inc. .01

*Includes Sleeping, Parlor and Observation Cars. †Excludes Outside Operations.

GENERAL BALANCE SHEET, JUNE 30, 1911, AND JUNE 30, 1910.

ASSETS.

June 30, 1910.		June 30, 1911.
	Property Investment:	
	Road and Equipment:	
	Investment to June 30, 1907:	
$318,243,507.64	Road	$318,243,507.64
47,796,465.54	Equipment (Including Trust Equipment)	47,796,465.54
$366,039,973.18		$366,039,973.18
$366,039,973.18	Total investment to June 30, 1907	$366,039,973.18
	Investment since June 30, 1907:	
$13,093,692.77	Road	$15,647,735.43
10,212,667.94	Equipment (Including Trust Equipment)	15,233,501.83
$23,306,360.71	Total Investment since June 30, 1907	$30,881,237.26
$389,346,333.89	Total Road and Equipment	$396,921,210.44
12,050,132.83	*Less:* Reserve for Accrued Depreciation on Equipment	12,912,296.92
$377,296,201.06	Total Net Road and Equipment.	$384,008,913.52
	Securities:	
	Securities of Proprietary, Affiliated and Controlled Companies—Pledged:	
$2,495,351.93	Stocks	$2,487,686.26
21,797,543.34	Bonds	21,502,921.74
$24,292,895.27		$23,990,608.00
2,000,000.00	Bonds Issued or Assumed—Pledged	2,000,000.00
	Securities of Proprietary, Affiliated and Controlled Companies—Unpledged:	
$110,244.35	Stocks	$125,886.21
696,371.53	Bonds	673,419.75
$806,615.88		$799,305.96
$27,099,511.15	Total	$26,789,913,96
	Other Investments:	
	Advances to Proprietary, Affiliated and Controlled Companies for Construction, Equipment and Betterments	$589,749.37
$335,656.89	Miscellaneous Investments:	
$391,513.51	Physical Property	$374,587.76
36,059,531.02	Securities—Pledged	36,189,186.93
9,589,465.55	Securities—Unpledged	9,598,039.18
$46,040,510.08		$46,161,813.87
$46,376,166.97	Total	$46,751,563.24
	Working Assets:	
$9,998,129.11	Cash	$10,377,361.16
8,855,788.75	Securities Issued or Assumed—Held in Treasury	16,101,800.00
	Marketable Securities:	
$262,477.50	Stocks	$256,522.00
179,059.04	Bonds	179,059.04
53,955.00	Miscellaneous	53,955.00
$495,491.54		$489,536.04
424,737.95	Loans and Bills Receivable	137,128.77
752,905.97	Traffic and Car Service Balances Due from Other Companies	732,882.78
450,220.46	Balance Due from Agents and Conductors	415,424.63
2,340,580.92	Miscellaneous Accounts Receivable	2,961,861.71
4,215,870.11	Material and Supplies	3,837,425.42
324,788.68	Other Working Assets	368,991.90
$27,858,513.49	Total	$35,422,412.41
	Accrued Income Not Due:	
$597,069.51	Unmatured Interest, Dividends and Rents Receivable	$938,693.31

ASSETS (*Continued*).

June 30, 1910.		June 30, 1911.
	Deferred Debit Items:	
$816,926.80	Temporary Advances to Proprietary, Affiliated and Controlled Companies	$745,771.25
53,832.07	Working Funds	22,494.24
752,276.29	Other Advances	1,013,232.37
807.73	Rents and Insurance Paid in Advance	2,318.43
21,323.30	Taxes Paid in Advance	23,528.45
4,853,144.57	Unextinguished Discount on Securities	1,688,029.79
5,833,650.40	Special Deposits	1,815,598.46
23,275.00	Cash and Securities in Sinking and Redemption Funds	31,830.58
700,610.56	Cash and Securities in Insurance Reserve Fund	804,390.12
1,688,722.51	Other Deferred Debit Items	1,569,663.48
$14,744,569.23	Total	$7,716,857.17
$493,972,031.41	Grand Total	$501,628,353.61

LIABILITIES.

June 30, 1910.		June 30, 1911.
	Capital Stock:	
$120,000,000.00	Common	$120,000,000.00
60,000,000.00	Preferred	60,000,000.00
$180,000,000.00	Total	$180,000,000.00
	Mortgage, Bonded and Secured Debt:	
	Funded Debt:	
$195,094,000.00	Mortgage Bonds — Outstanding	$193,986.300.00
11,063,800.00	Mortgage Bonds—Held by Company	18,309,800.00
$206,157,800.00	Total	$212,296,100.00
$19,667,700.00	Collateral Trust Bonds—Outstanding	$18,682,700.00
42,000.00	Collateral Trust Bonds—Held by Company	42,000.00
$19,709,700.00	Total	$19,724,700.00
10,107,000.00	Notes—Oustanding	10,107,000.00
$235,974,500.00	Total (See Table 5)	$242,127,800.00
18,173,000.00	Equipment Trust Obligations (See Table 6)	17,389,000.00
$254,147,500.00	Total	$259,516,800.00
33,099,000.00	Outstanding Securities on Leasehold Estates	33,099.000.00
	Working Liabilities:	
$1,760,328.09	Loans and Bills Payable	$470,339.36
833,430.13	Traffic and Car Service Balances due to other Companies	829,448.48
4,844,491.48	Audited Vouchers, Accounts and Wages Unpaid	4,861,646.68
460,612.90	Miscellaneous Accounts Payable	207,897.90
2,876,246.25	Matured Interest, Dividends and Rents unpaid, including amounts due July 1.	2,876,213.70
	Matured Mortgage, Bonded and Secured Debt unpaid—Bonds not presented for Redemption	29,300.00
21,100.00	Other Working Liabilities	956,775.13
1,317,271.11	Total	$10,231,621.25
$12,113,479.96	Accrued Liabilities Not Due:	
	Unmatured Interest and Rents Payable.	$1,713,954.50
$1,829,760.96	Taxes	909,467.67
828,628.77	Total	$2,623,422.17
$2,658,389.73	Deferred Credit Items:	
	Operating Reserves	$2,245,362.71
$2,010,977.75	Other Deferred Credit Items	742,381.11
302,748.04	Total	$2,987,743.82
$2,313,725.79	Appropriated Surplus:	
	Reserve for 1% Dividend on Preferred Stock, payable October, 1911	$600,000.00
	Additions to Property since June 30, 1907, through Income	319,411.17
$253,365.46	Insurance Reserve Fund	804,390.12
700,610.56	Total	$1,723,801.29
$953,976.02	Profit and Loss	11,445,965.08
8,685,959.91	Grand Total	$501,628,353.61
$493,972,031.41		